ORDER NO. MOD82040167C1

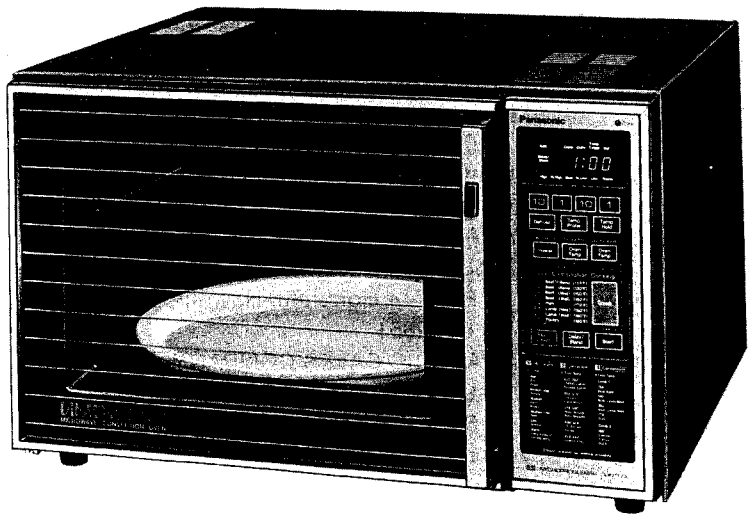
2795

Service Manual

Microwave Oven

NE-9910, NE-9910C

Original



NE-9910 for U.S.A.
NE-9910C for Canada
Specifications

Power Source :	115 V AC Single Phase 60 Hz
Power Requirement :	1,420 W : (13.0 A) : Microwave 1,550 W : (13.8 A) : Heater (for NE-9910) 1,420 W : (13.0 A) : Heater (for NE-9910C)
Output:	700 W : Full microwave power 1,300 W : Heater (for NE-9910) 1,200 W : Heater (for NE-9910C)
Oscillation Frequency :	2,450 MHz
Magnetron :	2M157-M2
Timer :	99 min. 99 sec. 9 Hr. 99 min.
Outside Dimensions :	24-3/4" (W) x 22" (D) x 15-1/8" (H) 630 mm (W) x 560 mm (D) x 385 mm (H)
Oven Cavity Dimensions :	15-1/2" (W) x 15-1/2" (D) x 9-1/2" (H) 395 mm (W) x 395 mm (D) x 241 mm (H)
Weight :	86 lbs (39 kg)
Specifications subject to change without notice.	

Panasonic®

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2795

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WARNING

1. This product should be serviced only by trained qualified personnel.
2. Though this product has been manufactured in compliance with :
   "Federal Performance Standard 21 CFR Subchapter J" (D.H.H.S.): NE-9910
   or "Radiation Emitting Devices Act" (NHW) : NE-9910C
   it is very important when servicing to avoid being exposed to excessive microwave radiation. This may be hazardous. All repairs should be made in accordance with procedures described in this manual.
3. Check for radiation leakage after every servicing according to the "procedure for measuring radiation leakage" on page 32.
4. Any serviceman who learns of any accident pertaining to microwave radiation leakage should immediately notify the appropriate address listed below.

IN U.S.A. (MECA)	PANASONIC COMPANY Division of Matsushita Electric Corporation of America One Panasonic Way, Secaucus, New Jersey 07094 Attention : Quality Assurance Dept. (201) 348-7000
IN HAWAII (PHI)	PANASONIC HAWAII, INC. 91-238 Kauhi St. Ewa Beach P.O. Box 774 Honolulu, Hawaii 96808-0774 (808) 682-2851
IN PUERTO RICO (PSC)	PANASONIC SALES COMPANY, Division of Matsushita Electric of Puerto Rico, Inc. Ave. 65 De Infanteria, KM 9.7 Victoria Industrial Park Carolina, Puerto Rico 00630 (809) 769-4320
IN CANADA (MELCA)	PANASONIC CANADA Division of Matsushita Electric of Canada Limited 5770 Ambler Drive, Mississauga, Ontario, L4W 2T3 (416) 624-5010

5. There are special components used in the microwave oven which are important for safety. These parts are shaded on the schematic diagram and marked with a ⚠ on the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent microwave leakage, shock, fire, or other hazards. Do not modify the original design.

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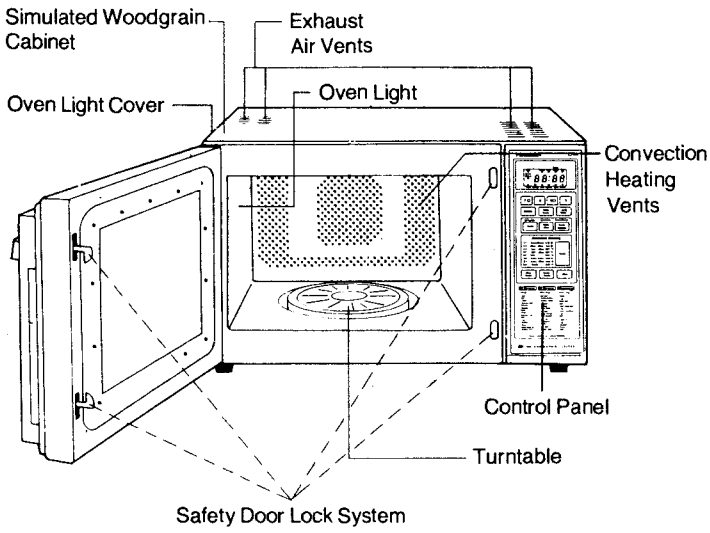
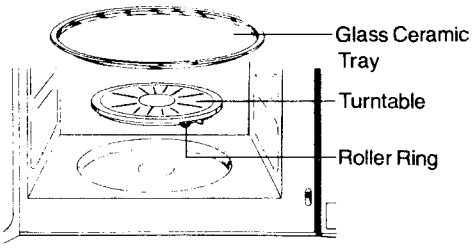
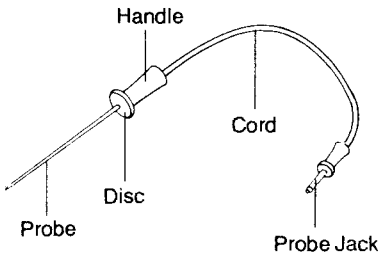
Feature Diagram

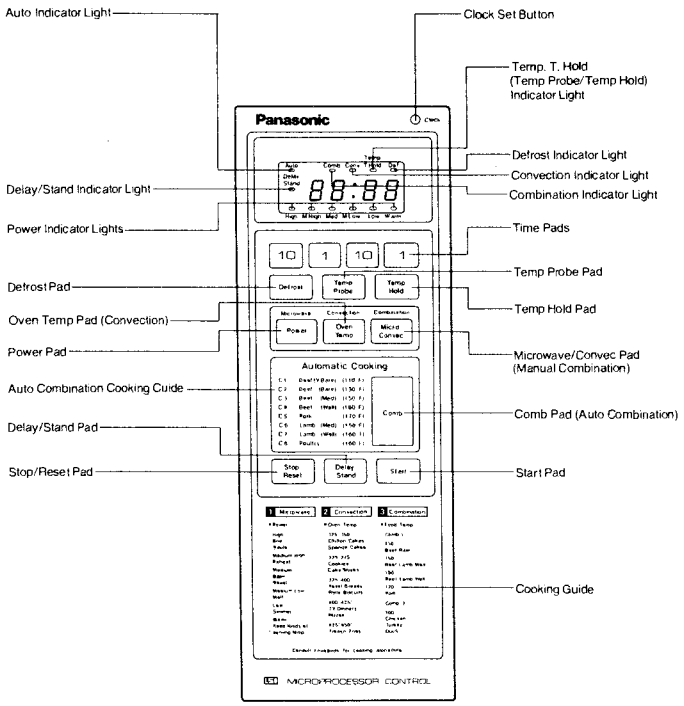






TEMPERATURE PROBE

Control Panel

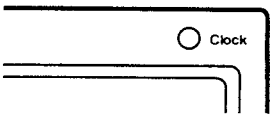


Controls

Auto Count Up:
The Time, Temp probe, Temp Hold, Microwave Power, Oven Temp, Micro/Convec, and Auto Comb Pads are all equipped with the Auto Count Up feature. By holding your finger on the pad, the readout in the display window will automatically count up through the complete function. After reaching the maximum function, the display will return to the starting point and continue to count up. To stop the readout at a specific setting, simply remove your finger from the pad.

Note: When Programming the oven, hold your finger firmly in the center of the pad.

To Set Clock:
When the oven is first shipped in, the indication lights except "Auto" turn on, 4 zeros appear and the colon blinks in the display.



1. Enter time of day by using appropriate Time Pads.
Example: To set 11:25 (a.m. or p.m.), touch Time Pads as follows:

From Left: 10 → once
1 → once
To Right: 10 → twice
1 → five times

— Time appears in the display window; colon is blinking.

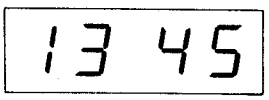
2. Push Clock Set Button.
Colon stops blinking; time of day is entered and locked into display.

Note: 1. Clock must be set before oven will operate.
2. To reset time of day, push Clock Set Button. The indicator lights except Auto turn on, 4 zeros appear, and the colon blinks in the display window. Enter the correct time of day by following above procedure.
3. The clock will keep the time of day as long as unit is plugged in and electricity is supplied.

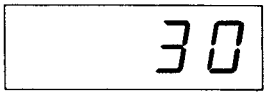
Time Pads:
1) Used for MICROWAVE (Except LOW Power): ← MIN 10 | MIN 1 | SEC 10 | SEC 1
The Pads serve as a 10 minute pad, 1 minute pad, 10 second pad and 1 second pad from the left.

10 | 1 | 10 | 1
1 HOUR | "H" | 10 MIN | 1 MIN

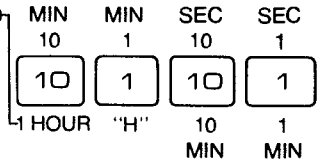
(Example 1: To set 13 minutes 45 seconds)
Touch;
10 MIN Pad: once
1 MIN Pad: 3 times
10 SEC Pad: 4 times
1 SEC Pad: 5 times



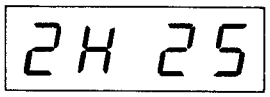
(Example 2: To set 30 seconds)
Touch;
10 SEC Pad: 3 times



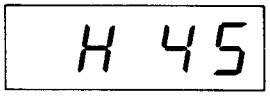
2) Used for CONVECTION, COMBINATION, DELAY/STAND and LOW Power:
The Pads serve as a 1 hour pad, an inoperable pad, 10 minute pad and 1 minute pad from the left.



(Example 1: To set 2 hours 25 minutes)
Touch;
1 HOUR Pad: twice
10 MIN Pad: twice
1 MIN Pad: 5 times



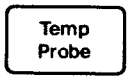
(Example 2: To set 45 minutes)
Touch;
10 MIN Pad: 4 times
1 MIN Pad: 5 times



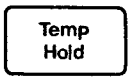
Note: When Convection, Combination, Delay/Stand or Low power is selected, the seconds will not visibly count down in the display window until only 59 minutes remain. The timer will then display minutes and seconds, and seconds will visibly count down.

Defrest Pad (Microwave):
When Defrost is selected, the defrosting time is divided into 6 periods, which alternates between defrost and stand. When oven is operating at Defrost power the Defrost indicator light blinks. The light remains on, but does not blink during stand time.

Temp Probe Pad:
Automatically counts-up in 10°F. increments from 100°F. to 200°F.. Touching the Temp Probe Pad during cooking shows the programmed temperature in the display window.



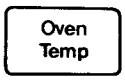
Temp Hold Pad:
Keeps food at serving temperature after temperature probe cooking. Food is kept warm by microwave energy. Carefully choose cooking utensils for this cooking method, especially when it is programmed with convection cooking.
The Temp Hold Pad automatically counts-up in 10 minute increments from 10 minutes to 90 minutes (1 hour 30 minutes).



Pewer Pad (Microwave):
Automatically counts-down from HIGH to WARM. The following is the approximate wattage for each power level.

HIGH power	(approx. 700 watts/Full power)
M. HIGH power	(approx. 650 watts/90% power)
MEDIUM power	(approx. 490 watts/70% power)
M. LOW power	(approx. 360 watts/50% power)
LOW power	(approx. 200 watts/30% power)
WARM power	(approx. 70 watts/10% power)

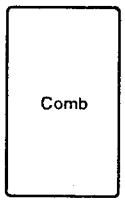
Oven Temp Pad (Convection):
Automatically counts-up in 25°F. increments from 200°F. to 450°F.. Touching Oven Temp Pad during cooking shows the temperature you programmed in display window.



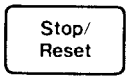
Micre/Convec Pad (Combination):
Automatically counts-up for the desired combination setting. Program 1 is for Beef, Pork and Lamb. Program 2 is for Chicken, Duck and Turkey.

Auto Combination Pad (Combination):
Automatically counts-up from C1 to C8. Auto Combination Pad must be used with the temperature probe and is used for roasting meats and poultry.

Note: Touching the Comb Pad during cooking will show the final preprogrammed food temperature. The Temp Probe Pad may also be used for the same purpose.



Stop/Reset Pad:
Before Cooking: One tap clears your instructions.
During Cooking: One tap temporarily stops the cooking process.
Another tap cancels all your instructions and time of day appears in display window.



Delay/Stand:
To delay cooking or to program Stand Time after cooking is completed or as an auxiliary timer.

Start Pad:
One tap allows oven to begin functioning. If door is opened or Stop/Reset Pad is tapped once during oven operation, the Start Pad must again be touched to restart the oven.

Auto Preheat (Convention):
Automatically preheats the oven to the desired convention oven temperature. Set oven temperature and touch the Start Pad. "P" appears in display window. When oven is preheated, three beeps will sound and "P" will begin to blink in display window.

Opening Door:
Opening the door during cooking will stop the cooking process without canceling the program. Cooking resumes as soon as the door is closed and Start Pad is touched. The oven light will stay on or turn on whenever the door is opened.

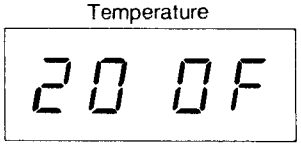
Beep Sound:
When a pad is touched correctly; a beep will be heard. If a pad is touched and no beep sound is heard, the unit has not or cannot accept the instruction. The oven will beep twice between programmed stages, three times after Auto Preheat and five times at the end of a program.

Digital Readout Display:

Time

(Example: 99 min. 99 sec.)

Temperature



(Example: 200°F.)

Clock

(Example: 12 hours and 30 min.)

Time

(Example: 9 hours 99 min.)

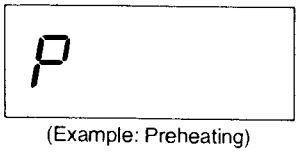
Temperature (Probe)

(Example: Lower than 100°F)

Auto Combination

(Example: C8)

Convection



(Example: Preheating)

Operation Procedure

Summarized Directions

MICROWAVE OPERATION

Time Cooking:

	One-Stage Cooking	Two-Stage Cooking	Three-Stage Cooking
Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7	Set Power. Set Time. Touch Start Pad.	Set first Power. Set first Time. Set second Power. Set second Time. Touch Start Pad.	Set first Power. Set first Time. Set second Power. Set second Time. Set third Power. Set third Time. Touch Start Pad.
	Defrost Cycle	Defrost-to-Cook Cycle	Defrost-to-Two Stage Cook Cycle
Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7	Touch Defrost Pad. Set Time. Touch Start Pad.	Touch Defrost Pad. Set Time. Set second Power. Set second Time. Touch Start Pad.	Touch Defrost Pad. Set Time. Set second Power. Set second Time. Set third Power. Set third Time. Touch Start Pad.

Temperature Probe Cooking: Probe must be inserted into ceiling receptacle before programming unit.

	One-Stage Cooking	Two-Stage Cooking	Three-Stage Cooking
Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7	Set first Power. Set Food Temp. Touch Start Pad.	Set first Power. Set first Food Temp. Set second Power. Set second Food Temp. Touch Start Pad.	Set first Power. Set first Food Temp. Set second Power. Set second Food Temp. Set third Power. Set third Food Temp. Touch Start Pad.

CONVECTION OPERATION

	Auto Preheat (Convection only)	
Step 1 Step 2 Step 3 Step 4 Step 5	Set desired Oven Temp. Touch Start Pad. When unit is preheated, place food in oven. Set Time. Touch Start Pad.	
	Time Cooking	Temperature Probe Cooking
Step 1 Step 2 Step 3	Set Oven Temp. Set Time. Touch Start Pad.	Set Oven Temp. Set Food Temp. Touch Start Pad.

COMBINATION OPERATION

	Auto Combination Cooking (with Temperature Probe)	
Step 1 Step 2	Set Auto Combination Cycle (C1–C8). Touch Start Pad.	
	Time Cooking	Temperature Probe Cooking
Step 1 Step 2 Step 3	Set Micro/Convec, Category 1 or 2 Set Time. Touch Start Pad.	Set Micro/Convec, Category 1 or 2 Set Food Temp. Touch Start Pad.

SPECIAL FUNCTION

	Timer	Delay Start
Step 1 Step 2 Step 3 Step 4	Touch Delay/Stand Pad. Set desired Time. Touch Start Pad.	Touch Delay/Stand Pad. Set desired Time. Set desired cooking program by Power and Time/Probe. Touch Start Pad.

	Stand
Step 1 Step 2 Step 3 Step 4	Set desired microwave cooking program. Touch Delay/Stand Pad. Set desired Time. Touch Start Pad.

	Temp Hold
Step 1 Step 2 Step 3	Set desired cooking program with Temp Probe. Set Temp Hold Time. Touch Start Pad.

Microwave

Microwave cooking lets you defrost foods quickly, prepare delicious stews, savory casseroles, and vegetables that come out tender and colorful. It's also an ideal and easy way to reheat leftovers that taste as though they were freshly prepared.

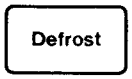
Note: See cooking utensils section in your Panasonic Microwave Cookbook or page 26 of this manual.
Refer to Safety statements for microwave oven on page 4 and 5.

Time Cooking

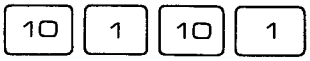
If Convection or Combination was used prior to Microwave Cooking or Defrosting, allow unit to cool 15 to 20 minutes with the door slightly ajar. This will insure best cooking or defrosting results.

Defrosting

Step 1. Touch Defrost Pad.
—Clock time disappears. Defrost indicator light turns on.



Step 2. Set defrost time by pressing Time Pads.
—Defrost time appears in display window in minutes and seconds.

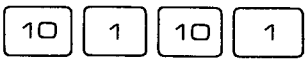


Step 3. Touch Start Pad.
—Oven light turns on; microwave defrosting begins.
Defrost indicator light begins to alternately blink and glow.
Turntable begins to rotate.
Defrosting time counts down second by second.
—When defrosting is completed, oven beeps five times and shuts off automatically. Turntable stops.
Defrost indicator light and oven light turn off.
Time of day appears in display window.

One Stage Cooking

Step 1. Select cooking power by pressing Power Pad.
—Clock time disappears. Selected power indicator light turn on.

Step 2. Set cooking time by pressing Time Pads.
—Cooking time appears in display window in minutes and seconds.
Note: When Low power is selected "H" meaning Hour appears in display window and cooking time is shown in hours and minutes.



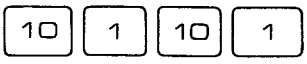
[Step 3. Touch Start Pad.]

———— OR ————

Two Stage Cooking

Step 3. Before touching Start Pad, select second cooking power by pressing Power Pad.
—Previously selected time and power indicator light disappear from display window. Second stage power indicator light turns on.

Step 4. Set second stage cooking time by pressing Time Pads.
—Second stage cooking time appears in display window.



[Step 5. Touch Start Pad.]

Note: Some examples of 2 stage cooking are:
*High—M. Low *Delay—Medium
*Defrost—High *M. High—Stand

——— OR ———

Three Stage Cooking

Step 5. Before touching Start Pad, select third stage cooking power by pressing Power Pad.
—Previously selected time and power indicator light disappear from display window. Third stage power indicator light turns on.

Power

Step 6. Set third stage cooking time by pressing Time Pads.
—Third stage cooking time appears in display window.

10 1 10 1

Step 7. Touch Start Pad.
—Microwave activity starts. Oven light turns on and turntable rotates. Third stage cooking time disappears and first stage cooking time reappears in display window and begins to count down.
First stage power indicator light turns on and starts to blink while second and third stage indicator lights turn and stay on. Oven light turns on and turntable rotates.

Start

Note: When Low power is selected, cooking time counts down minute by minute. Cooking time counts down second by second when less than 59 minutes remain.

—When first stage cooking ends, oven beeps twice. Second stage cooking time reappears in display window and begins to count down. First stage power indicator light turns off while second stage power indicator light begins to blink. Third stage power indicator light remains on.
—When second stage cooking ends, oven again beeps twice. Third stage cooking time reappears in display window and begins to count down. Second stage power indicator light turns off while third stage power indicator light begins to blink.
—When third stage cooking ends, oven beeps five times and shuts off automatically. Turntable stops. Indicator light and oven light turn off. Time of day appears in display window.

Note: Some examples of **3** stage cooking are:
*High—Medium—Low *Defrost—High—Stand
*Defrost—M. Low—Warm *Delay—M. High—Stand

Temperature Probe Cooking

One Stage Cooking

Step 1. Insert temperature probe horizontally into center of food and place in oven. Connect probe jack to oven ceiling receptacle.
—Temp. (Temp Probe/Temp Hold) indicator light turns on.

Step 2. Select cooking power by pressing Power Pad.
—Clock time disappears. Selected power indicator light turns on.

Power

Step 3. Select temperature of food by pressing Temp Probe Pad.
—Selected temperature appears in display window.

Temp Probe

[**Step 4. Touch Start Pad.**]

——— OR ———

Two Stage Cooking

Step 4. Before touching Start Pad, select second cooking power by pressing Power Pad.
—Previously selected power indicator light and temperature disappear from display window. Second stage power indicator light turns on.

Power

Step 5. Select second stage temperature of food by pressing Temp Probe Pad.
—Selected temperature appears in display window.

Temp Probe

[**Step 6. Touch Start Pad.**]
Note: Some examples of 2 stage cooking are:
*High—Low
*Medium—Temp Hold
*Delay—High
*Medium—Stand

———— OR ————

Three Stage Cooking

Step 6. Before touching Start Pad, select third stage cooking power by pressing Power Pad.
—Previously selected power indicator light and temperature disappear from display window. Third stage power indicator light turns on.

Power

Step 7. Select third stage temperature of food by pressing Temp Probe Pad.
—Selected temperature appears in display window.

Temp Probe

Step 6. Touch Start Pad.
—Oven light turns on. Microwave cooking begins.
Turntable begins to rotate.
First stage power indicator light begins to blink.
Second and third stage power indicator lights stay on. Current temperature of food is displayed in rising 5°F. increments starting at 100°F. If starting temperature is lower than 100°F., "L95F." (meaning lower than 100°F.) will be displayed until food reaches 100°F.
—When first stage cooking ends, oven beeps twice; first stage power indicator light turns off while second stage light begins to blink. Current temperature continues to be displayed.
—When second stage cooking ends, oven again beeps twice; second stage power indicator light turns off while third stage light begins to blink. Current temperature continues to be displayed.
—When third stage cooking ends, oven beeps five times and shuts off automatically; power indicator light and oven light turn off. Turntable stops. Time of day appears in display window.

Start

Note: 1) In case a lower temperature than first stage is set for second stage (Example: 160°F. for first stage and 140°F. for second stage), microwave activity automatically stops when first stage temperature (160°F.) is reached. Temperature of food drops to second stage temperature (140°F.) by natural cooling while second stage power indicator light stays on.
2) In case a lower temperature than second stage is set for third stage, oven works as in example given above.
3) Touching Temp Probe Pad during cooking shows the final food temperature you programmed in display window.

Step 9. Remove temperature probe from oven ceiling receptacle.
—Temp. (Temp Probe/Temp Hold) indicator light turns off.

Note: Some examples of 3 stage cooking are:
*High—Medium—Low
*High—M. Low—Temp Hold
*Delay—High—Medium
*Delay—M. Low—Stand

Note: Refer to Safety statements for temperature probe on page 5.

Convection

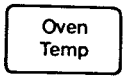
You'll find a convection oven in some bakeries, restaurants and other institutional kitchens, because professional cooks have long known that this method assures the good results in preparing so many types of foods.

For information on cooking utensils see introduction section of Convection/Combination cookbook and page 5 and 26 of this manual. Refer to Safety statements for Convection Oven on page 4.

Auto Preheating

Preheat when indicated in recipes.
Preheat only with Convection Cooking. It is not applicable to Microwave or Combination Cooking. For your convenience, this oven is equipped with Auto Preheating feature so that you don't have to set preheating time or reset oven temperature after preheating for cooking.

Step 1. Press Oven Temp Pad for desired oven temperature.
—Clock time disappears. Conv. (Convection) indicator light turns on. Selected oven temperature appears in display window.



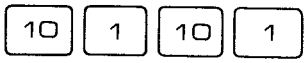
Step 2. Touch Start Pad.
—Oven light turns on. Turntable begins to rotate. Preheating starts and Conv. (Convection) indicator light begins to blink. "P" for "PREHEATING" appears and remains in display window.

—When preheating is completed "P" in display window begins to blink. Oven beeps three times. Oven light stays on and turntable continues to rotate. Conv. (Convection) indicator light stops blinking and stays on.

NOTE: 1) After completion of preheating, be sure to open oven door and place food inside oven to start Convection Cooking by time or with temperature probe.
If oven door is not opened after preheating, oven will maintain the selected temperature for 30 minutes. After 30 minutes, oven will shut off automatically.
2) Oven should be preheated with the Glass Ceramic Tray in place.
3) For more detailed information on when to preheat, refer to your Panasonic Convection/ Combination Cookbook.

Time Cooking

Step 1. After Auto Preheating, set cooking time by pressing Time Pads.
—"P" disappears and cooking time appears in display window.



Step 2. Touch Start Pad.
—Oven light turns on. Convection cooking begins and Conv. (Convection) indicator light begins to blink.
Turntable begins to rotate.
Cooking time counts down.

Note: 1) When selected cooking time is less than one hour, time counts down second by second.
2) When selected cooking time is over one hour, time counts down minute by minute until only "59 00" (59 minutes) remain. Display then indicates minutes and seconds and counts down second by second.

—When cooking is completed, oven beeps five times and shuts off automatically. Turntable stops. Conv. (Convection) indicator light and oven light turn off. Time of day appears in display window.

Temperature Probe Cooking

Step 1. After Auto Preheating, insert temperature probe horizontally into center of food and place in oven. Carefully connect probe jack to oven ceiling receptacle.
—Temp. (Temp Probe/Temp Hold) indicator light turns on.

Step 2. Select temperature of food by pressing Temp Probe Pad.
—"P" disappears and selected temperature of food appears in display window.

Step 3. Touch Start Pad.
—Convection cooking begins. Oven light turns on. Conv. (Convection) indicator light begins to blink. Turntable rotates. Current temperature of food is displayed in 5°F. increments starting at 100°F. If starting temperature is lower than 100°F., "L95F" (meaning lower than 100°F.) will be displayod until food reaches 100°F.
If the starting temperature is higher than 100°F., current temperature of feod will be displayed and count up in 5°F. increments.
—When food reaches selected temperature, oven beeps five times and shuts off automatically. Turntable stops. Conv. (Convection) indicator and oven lights turn off. Time of day appears in display window.
Note: If food is at a higher temperature, when placed in oven than selected food temperature, oven shuts off immediately after Start Pad is touched.

Step 4. Remove temperature probe from oven ceiling receptecle.
—Temp. (Temp Probe/Temp Hold) indicator light turns off.

Note: Refer to Safety statements for temperature probe on page 4.

NOTE: 1) If Auto Preheating is not necessary, set oven temperature and desired time or temperature for probe.
2) Convection can be used with Microwave in program cooking. However, connection can only be usod for one stage of cooking.
Following programs are available.
*Convection—Microwave—Microwave
*Microwave—Convection—Microwave
*Microwave—Microwave—Convection
3) Convection can not be used with Combination.
4) Touching Oven Temp Pad during Convection Cooking shows programmed oven temperature in display window.
5) When checking the temperature of your convection oven a standard oven thermometer, several factors affect the accuracy of the thermometer reading.
A. Opening the oven door allows cool room temperature air to enter the oven cavity and the hot oven air to enter the room. Opening the door frequently during cooking could dramatically reduce the oven temperature and increase the cooking time (Similar results will occur in a conventional oven.)
B. When the reading of the air temperature is taken with food in the oven, it will be lower than the set oven temperature. Since the food is cooler than the heated air, the food reduces the air temperature.
C. The actual accuracy of oven thermometers may vary. If the thermometer has been dropped or abused, the accuracy could be affected.
Do NOT use an oven thermometer in the oven during Microwave or Combination cooking.

Combination

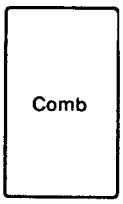
A remarkable development in technology enables Panasonic to bring you an oven that combines the best features of both microwave and convection cooking. Cook foods with speed and accuracy, while roasting and evenly browning them to juicy, tender perfection.

NOTE: 1) Do not use metal containers. For information on cooking utensils see introduction section of the Microwave and Convection/Combination cookbooks and page 6 and 27 of this manual.
2) Refer to Safety statements for Combination on page 4.

Auto Combination Cooking

Step 1. Insert temperature probe horizontally into center of food and place in oven. Connect probe jack to oven ceiling receptable.
—Temp. (Temp Probe/Temp Hold) indicator light turns on.

Step 2. Select appropriate Auto Combination program by pressing Comb. (Auto Combination) Pad.
—Clock time disappears. The Auto indicator light and Comb. (Combination) indicator light turn on.
Selected Auto Combination program appears in display window.



Step 3. Touch Start Pad.
—Oven light turns on. Turntable begins to rotate. Combination cooking begins. Comb. (Combination) indicator light begins to blink while Auto indicator light stays on.
Current temperature of food is displayed in rising 5°F. increments starting at 100°F. If starting temperature is lower than 100°F., "L95F" (meaning lower than 100°F.) will be displayed until food reaches 100°F.

—When food reaches the preprogrammed temperature in selected Auto Combination program, oven beeps five times and shuts off automatically. Turntable stops. Auto and Comb. (Combination) indicator lights turn off. Oven light turns off. Time of day appears in display window.

Note: If food is at a higher temperature, when placed in oven, than preprogrammed food temperature, oven shuts off immediately after Start Pad is touched.

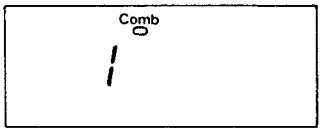
Step 4. Remove temperature probe from oven ceiling receptacle.
—Temp. (Temp Probe/Temp Hold) indicator light turns off.

NOTE: 1) Auto Combination Cooking can be programmed before Microwave Temp Probe Cooking. However, Auto Combination can only be used for one stage of cooking.
*Auto Combination—Microwave (Temp Probe)—Microwave (Temp Probe).
2) Auto Combination Cooking can not be used with Micro/Convec (Combination), Microwave (Power/Time) or Convection Cookings.
3) Touching Comb Pad during Auto Combination Cooking shows the preprogrammed final food temperature in display window.
You may touch Temp Probe Pad for the same purpose.
When Auto Combination Cooking is used with microwave temperature probe cooking, touching the Comb Pad shows preprogrammed final food temperature, for Auto Combination Touching the Temp Probe Pad shows the programmed food temperature.

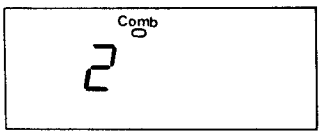
Time Cooking

Step 1. Select combination cooking program by tapping Micro/Convec Pad once or twice.

—Clock time disappears. Comb. (Combination) indicator light turns on. Selected combination cooking program appears in display window.
Example: Tap the Micro/Convec Pad once for meats (roast beef, pork, lamb) or twice for poultry (chicken, turkey, duck). The appropriate oven temperature and microwave power level for each setting are preprogrammed for you.

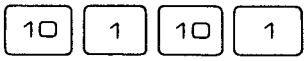


COMBINATION 1
(Beef, Pork, Lamb)
—300°F. at 130 watts



COMBINATION 2
(Chicken, Turkey, Duck)
—325°F. at 130 watts

Step 2. Set cooking time by pressing Time Pad.



—Previously selected combination cooking program disappears. Cooking time appears in display window.

Step 3. Touch Start Pad.

—Oven light turns on. Combination cooking begins and Comb. (Combination) indicator light begins to blink.
Turntable begins to rotate.
Cooking time counts down.

Note: 1) When selected cooking time is less than one hour, time counts down second by second.
2) When selected cooking time is over one hour, time counts down minute by minute until only "59 00" (59 minutes) remain. Display then indicates minutes and seconds and counts down second by second.

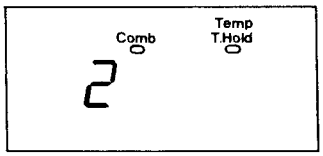
—When cooking is completed, oven beeps five times and shuts off automatically. Turntable stops. Comb. (Combination) indicator and oven lights turn off. Time of day appears in display window.

Temperature Probe Cooking

Step 1. Insert temperature probe horizontally into center of food and place in oven. Connect probe jack to oven ceiling receptacle.
—Temp. (Temp Probe/Temp Hold) indicator light turns on.

Step 2. Select appropriate combination cooking program by tapping Micro/ Convec Pad.
—Clock time disappears. Comb. (Combination) indicator light turns on. Selected combination cooking program appears in display window.

Micro/ Convec



(Example: COMBINATION 2—two taps)

Step 3. Select Temperature of food by pressing Temp Probe Pad.
—Previously selected combination program disappears. Selected temperature of food appears in display window.

Temp Probe

Step 4. Touch Start Pad.
—Oven light turns on. Combination cooking begins and Comb. (Combination) indicator light begins to blink. Turntable begins to rotate. Current temperature of food is displayed in 5°F. increments starting at 100°F. If starting temperature is lower than 100°F., "L 95F" (meaning lower than 100°F.) will be displayed until food reaches 100°F. If the starting temperature is higher than 100°F., current temperature of food will be displayed and count up in 5°F. increments.
—When food reaches selected temperature of food, oven beeps five times and shuts off automatically. Turntable stops, Comb. (Combination) indicator and even lights turn off. Time of day appears in display window.

Start

Note: If food is at a higher temperature, when placed in oven, than selected food temperature, oven shuts off immediately after Start Pad is touched.

Step 5. Remove temperature probe from oven ceiling receptacle.
—Temp. (Temp Probe/Temp Hold) indicator light turns off.

Refer to Safety statements for temperature probe on page 4.

NOTE: 1) Combination can be programmed with Microwave cooking. However, Combination can only be use for one stage.
Following programs are available:
*Combination—Microwave—Microwave
*Microwave—Combination—Microwave
*Microwave—Microwave—Combination
2) Combination can not be programmed with Convection.
3) Touching Temp Probe Pad during cooking shows the selected final food temperature in display window.

How To Use Special Controls

Temp Hold

The oven will keep food warm when Temperature Hold is used in conjunction with any temperature probe cooking operation (including Auto Combination Cooking) by holding final temperature of food you select.

Step 1. Insert temperature probe horizontally into center of food and place in oven. Connect probe jack to oven ceiling receptacle.
—Temp. (Temp Probe/Temp Hold) Indicator light turns on.

Step 2. Program desired temperature probe cooking according to directions already given in this manual.
—Selected temperature probe cooking program and indicator light appear in display window.

Desired Temp Probe Cooking Program

Step 3. After having selected desired temperature probe cooking program (including Auto Combination Cooking), set Temp Hold Time by pressing Temp Hold Pad.
—Previously selected program and indicator light except for Temp. (Temp Probe/Temp Hold) indicator light disappears from display window. Selected time appears in display window in 10 minutes increments.

Note: You can set Temp Hold time up to 90 minutes in 10 minutes increments.

Tsmp Hold

Step 4. Touch Start Pad.
—Oven light turns on. Turntable begins to rotate. Appropriate indicator light begins to blink while Temp. (Temp Probe/Temp Hold) indicator light stays on.
—When oven cooks to specific temperature of food, it beeps twice and selected Temp Hold time appears in minutes and seconds in display window.
Previous indicator light turns off. Temp. (Temp Probe/Temp Hold) indicator light begins to blink and time counts down second by second.
—At the end of time oven beeps five times and shuts off automatically.
Turntable stops and oven light turns off.
Temp. (Temp Probe/Temp Hold) indicator light stops blinking.
Time of day appears in display window.

Start

Step 5. Remove temperature probe from oven ceiling receptacle.
—Temp. (Temp Probe/Temp Hold) indicator light turns off.

NOTE: 1) Maximum of two stage cooking can be programmed before Temp Hold.

Some examples of Temp Hold are:
*MICROWAVE—Temp Hold *DELAY—CONVECTION—Temp Hold
*CONVECTION—Temp Hold *AUTO COMBINATION—Temp Hold
*COMBINATION—Temp Hold

2) When using Temp Hold do not use any metal utensils on the baking rack. Arcing may occur.
3) This oven can be programmed to hold the temperature of the food at a lower temperature than the actual cooking temperature. To program the oven:

Step 1. Set desired cooking method and probe temperature.
Step 2. Set a microwave power level and lower probe temperature. (As the temperature of the food drops to the second stage temperature by natural cooling, the second stage power indicator light blinks. There is no microwave activity during this second stage.)

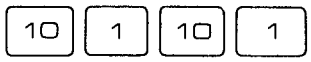
Step 3. Set Temp Hold.
Step 4. Touch Start Pad.
Some examples are:

*160°F. (Convection, 325°F.)—140°F. (Microwave)
—Temp Hold, 30 min.
*180°F. (Combination 2)—140°F. (Microwave)
—Temp Hold, 10 min.
*150°F. (Microwave, M. HIGH)—140°F. (Microwave)
—Temp Hold, 20 min.

Timer

Step 1. Touch Delay/Stand Pad.
—Clock time disappears from display window. Delay/Stand indicator light turns on.

Step 2. Set desired amount of time by pressing Time Pads.
—Selected amount of time appears in display window. (A maximum of 9 hours and 99 minutes may be programmed three times by repeating Step 1 and 2.)



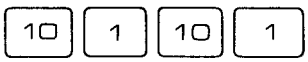
Step 3. Touch Start Pad.
—Oven light does not turn on. No cooking activity begins. Turntable does not rotate. Only the time displayed starts to count down.
—When programmed time has elapsed, oven beeps five times. Delay/Stand indicator light turns off. Time of day appears in display window.

NOTE: 1) If three periods of time are programmed, oven will beep twice after each of the first two periods count down. After third time period oven will beep five times and shut off automatically.
2) If door is opened when the time is displayed counting down as with the timer function, the count down will not stop.
3) When selected amount of time for one stage is over one hour, the seconds will not visibly count down in display window until only 59 minutes remain. The timer will then display minutes and seconds, and seconds will visibly count down.

Delay Start

Step 1. Touch Delay/Stand Pad.
—Clock time disappears from display window. Delay/Stand indicator light turns on.

Step 2. Set desired amount of time for which you want to delay the start of cooking by pressing Time Pads.
—Selected amount of time appears in display window in minutes and seconds. (A maximum of 9 hours and 99 minutes may be programmed twice by repeating Step 1 and 2.)



Step 3. Program desired cooking according to directions already given in this manual, i.e. any temperature probe cooking or time cooking.
—Delay time and Delay/Stand indicator light disappears. Selected program and indicator light appears in display window.

Step 4. Touch Start Pad.

—Selected program and indicator light disappears.
Oven light does not turn on; no cooking activity begins.
Turntable does not rotate. Delay time appears and counts down. Delay/Stand indicator light and other indicator lights stay on.
—When delay time has elapsed, oven beeps twice and enters into previously selected cooking function.
Oven light turns on and turntable begins to rotate.
—When cooking is completed, oven beeps five times and shuts off automatically. Turntable stops. Oven light and other indicator light turn off.
Time of day appears in display window.

NOTE: 1) If start of cooking is delayed (up to 9 hours and 99 minutes), only two stage cooking can be programmed. If delay time is set as first and second stages, only third stage cooking can be programmed.
2) When selected amount of time for one stage is over one hour, the seconds will not visibly count down in the display window until only 59 minutes remain. The timer will then display minutes and seconds, and seconds will visibly count down.

Stand Time

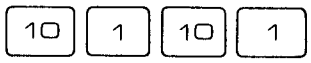
Step 1. Program desired microwave function according to directions already given in this manual.

—Selected program and indicator light appear in display window.

Step 2. Touch Delay/Stand Pad.

—Previously selected program and indicator light disappear from display window.
Delay/Stand indicator light turns on.

Step 3. Set desired amount of time by pressing Time Pads. (A maximum of 9 hours 99 minutes may be programmed twice.)



—Stand time appears in display window.

Step 4. Touch Start Pad.

—Oven light turns on. Previously selected program appears in display window. Microwave activity begins and indicator light blinks. Turntable begins to rotate.
—When microwave program is completed, turntable stops, oven beeps twice, and standing time counts down.
Delay/Stand indicator light turns on while oven light turns off.
—At the end of standing time, oven beeps five times and shuts off automatically.
Delay/Stand indicator light turns off. Time of day appears in display window.

NOTE: 1) Oven does not accept Stand Time after Convection or Combination cooking.
2) A stand time may be programmed up to twice after one stage or once after two stage microwave cooking program, but not after three stage microwave cooking.
3) When selected amount of time for one stage is over one hour, the seconds will not visibly count down in the display window until only 59 minutes remain. The timer will then display minutes and seconds, and seconds will visibly count down.

MEMO

NE-9910 SCHEMATIC DIAGRAM

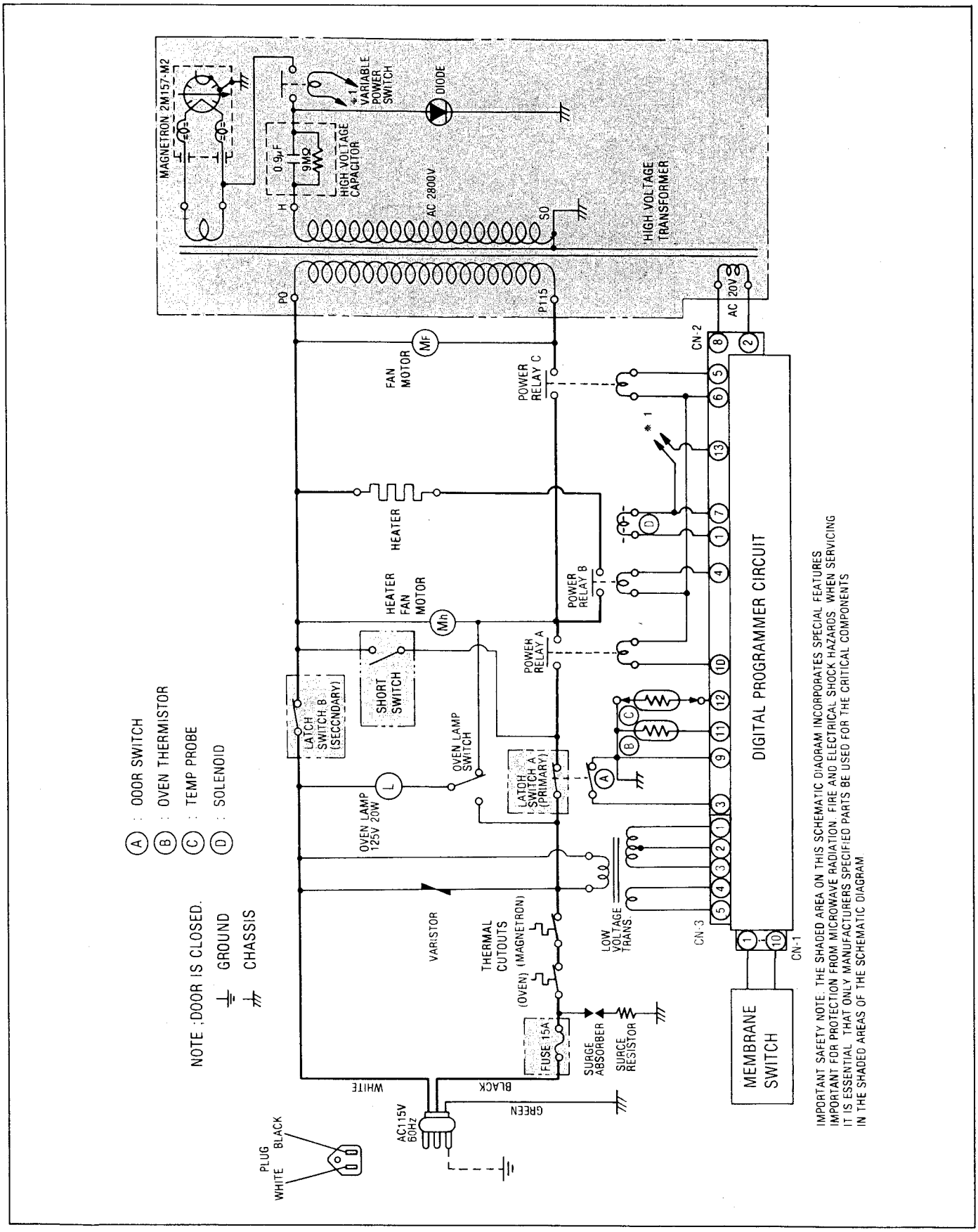


Fig. 1

NE-9910C SCHEMATIC DIAGRAM

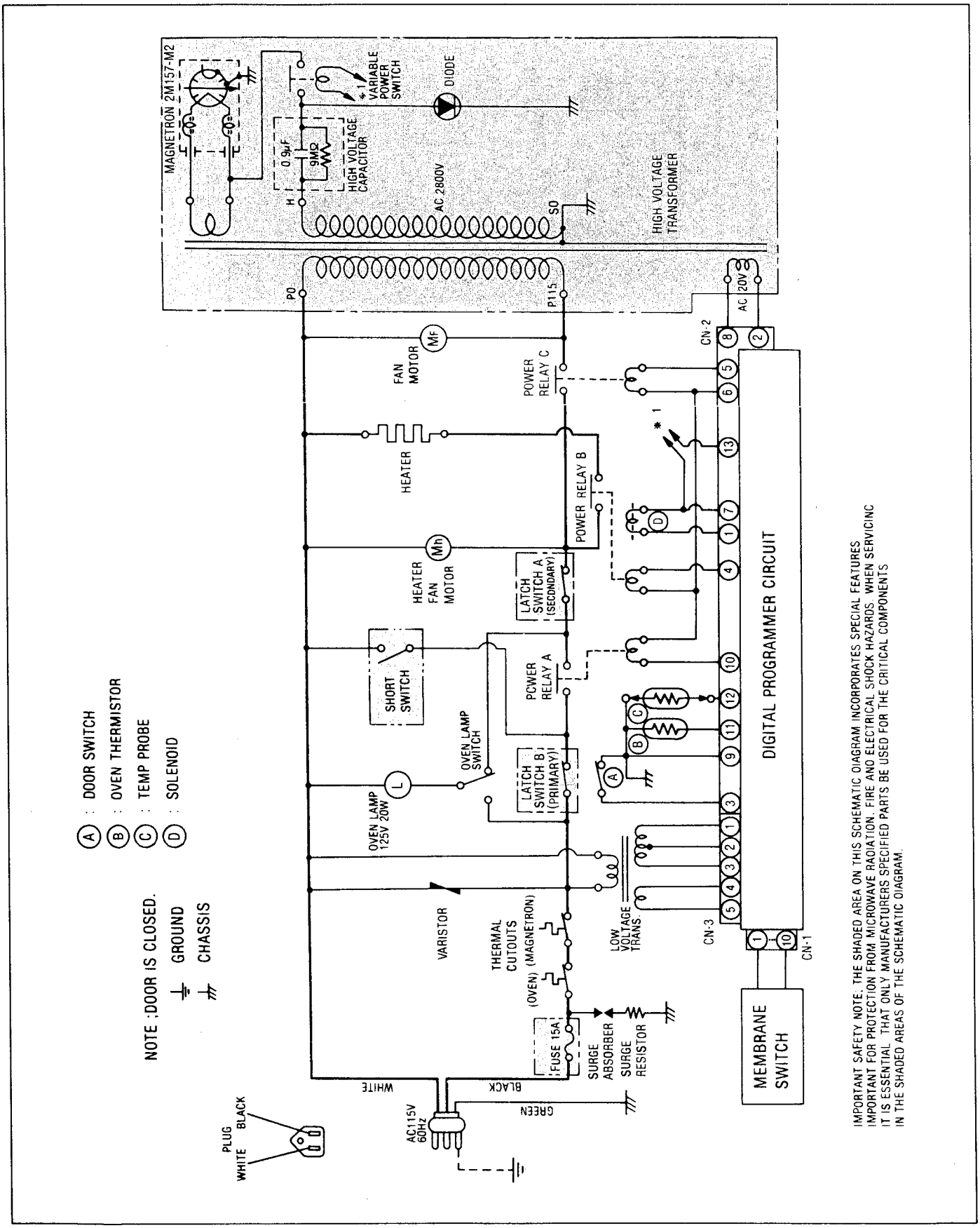
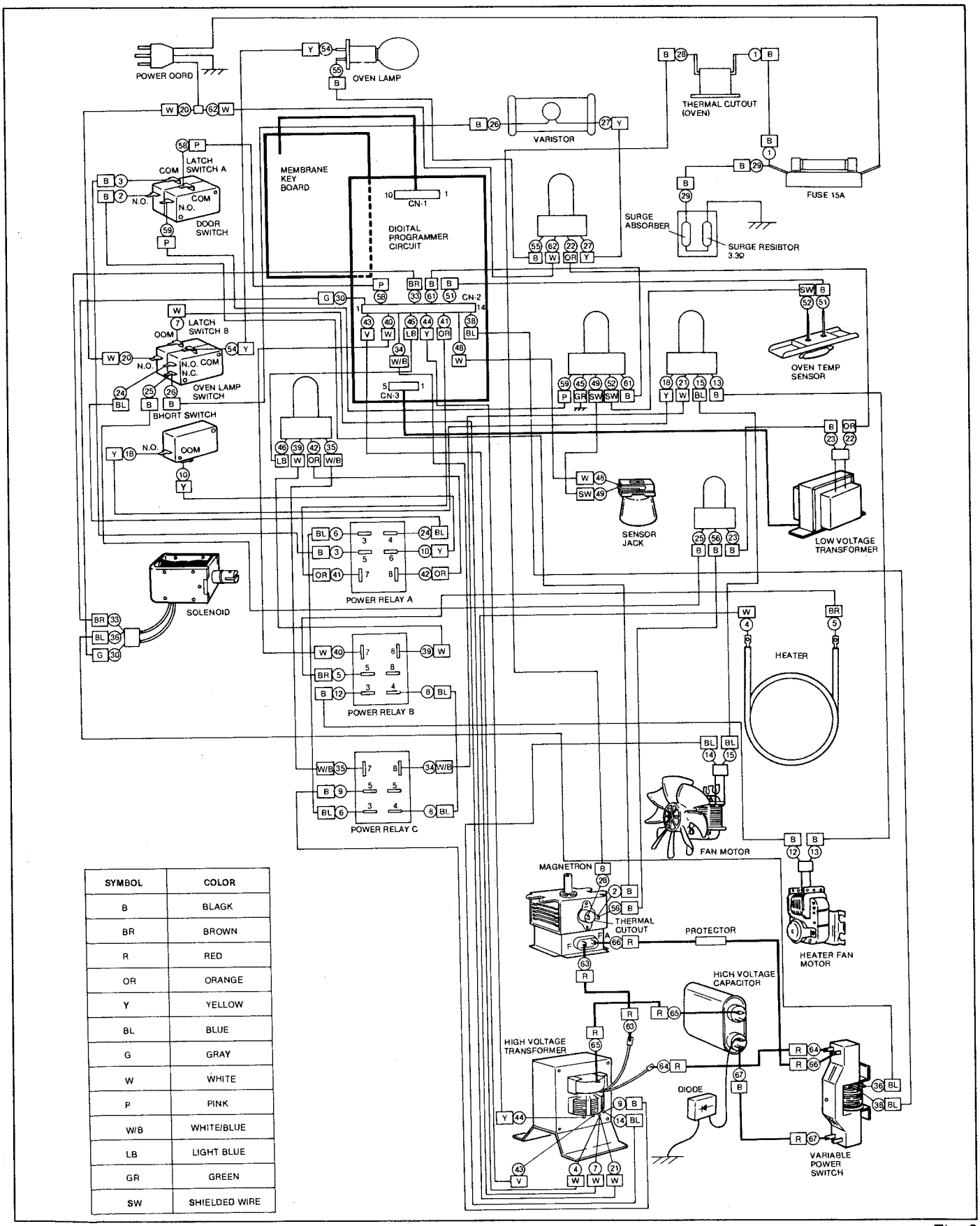


Fig. 2

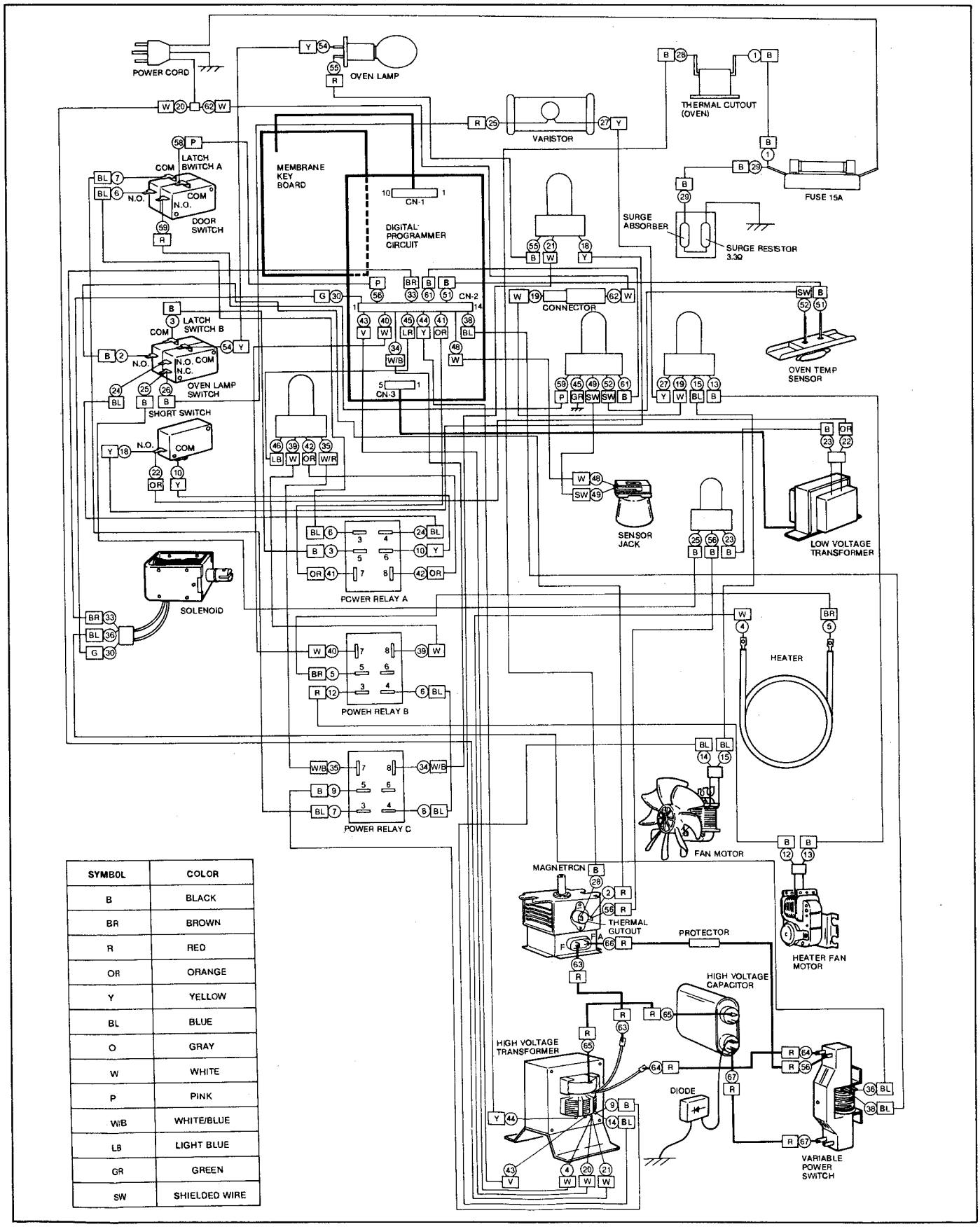
NE-9910 WIRING DIAGRAM



SYMBOL	COLOR
B	BLAGK
BR	BROWN
R	RED
OR	ORANGE
Y	YELLOW
BL	BLUE
G	GRAY
W	WHITE
P	PINK
W/B	WHITE/BLUE
LB	LIGHT BLUE
GR	GREEN
SW	SHIELDED WIRE

Fig. 3

NE-9910C WIRING DIAGRAM



SYMBOL	COLOR
B	BLACK
BR	BROWN
R	RED
OR	ORANGE
Y	YELLOW
BL	BLUE
O	GRAY
W	WHITE
P	PINK
W/B	WHITE/BLUE
LB	LIGHT BLUE
GR	GREEN
SW	SHIELDED WIRE

Fig. 4

CIRCUIT DESCRIPTION

1. Variable cooking control

The coil of variable power switch is energized intermittently by the digital programmer circuit, when the oven is set at any power selection except for High power position. The digital programmer circuit controls the ON-OFF time of the variable power switch contacts in order to vary the output power of the microwave oven from "Warm" to "High" power. One complete ON and OFF cycle of the variable power switch is 22 seconds.

The relation between indications on the control panel and the output of the microwave oven is as shown in **Fig. 5**.

(CYCLIC) DEFROST

When defrost is selected and the desired defrosting time is chosen, the operation is as follows after the start pad is touched.

(A) Defrost on this model is an automatic cycle and divides the entire defrost cycle into 8 alternating periods. 4 periods of actual defrosting power and 4 periods of standing time. (See **Fig. 8)**

(B) During any of the defrosting periods, the variable power switch, which is controlled by the DPC, is ON for 7 seconds and OFF for 15 seconds.(see **Fig. 7**)

NOTE: When defrosting time is selected for not more than 7 seconds, the variable power switch will be energized and de-energized every 1 second.

(C) During any of the standing periods the variable power switch is not activated by the DPC, so there is no microwave power.

(D) The length of each defrosting and standing period within the complete automatic defrosting cycle is decided by the DPC. Basically the complete amount of automatic defrost time that is selected by the user is divided into 8 time periods.

These time periods are not necessarily equal, but generally they are very close to being equal periods.

Example #1: If defrosting time is selected for 2 minutes 56 seconds, each operating period will be as follows :(see **Fig. 8**)
2 minutes 56 seconds = 176 seconds
176/8 = 22

Example #2: If Defrosting time is selected for 5 minutes, each operating period will be as follows: (see **Fig. 9)**
5 minutes = 300 seconds
300/8 = 37 and remainder is 4

INDICATION	OUTPUT POWER ACAINST HIGH POWER	ON, OFF TIME ON VARIARLE POWER SWITCH
High	22/22 (100%)	22S ON, 22S ON
M. High	20/22 (91%)	20S ON, 2S OFF, ON, OFF
Med	15/22 (68%)	15S ON, 7S OFF, ON, OFF
M. Low	11/22 (50%)	11S ON, 11S OFF, ON, OFF
Low	6/22 (27%)	6S ON, 16S OFF, ON, OFF
Warm	2/22 (10%)	2S ON, 20S OFF, ON, OFF

Fig. 5

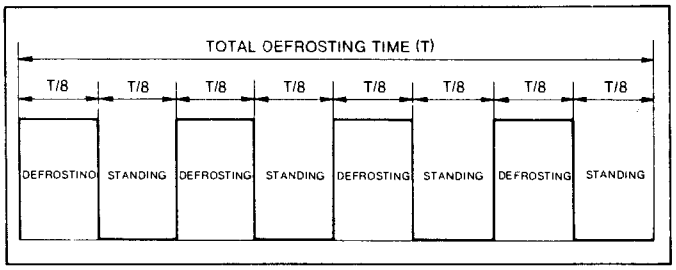


Fig. 6

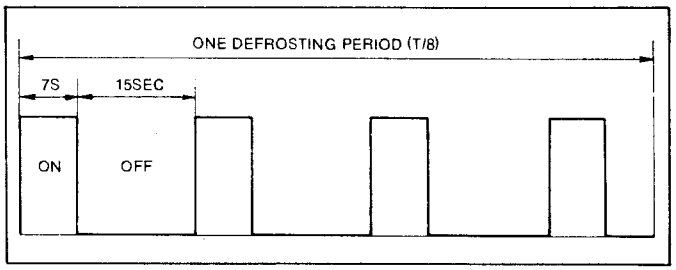


Fig. 7

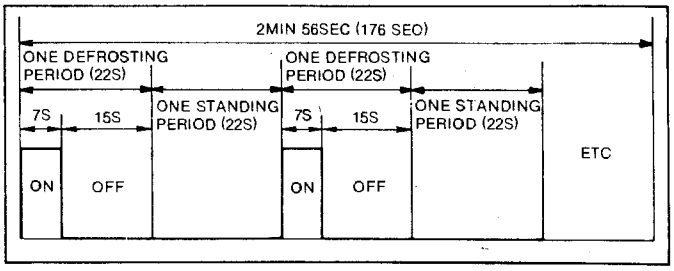


Fig. 8

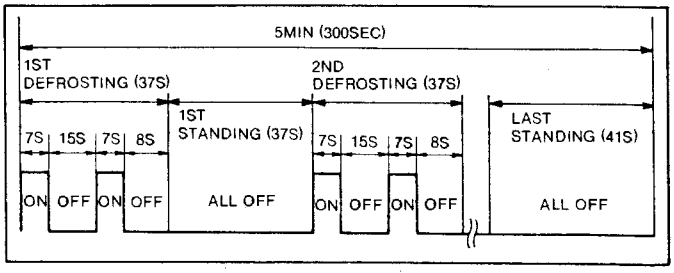


Fig. 9

2. Temperature probe cooking control

The digital programmer circuit turns off power relay A and power relay C when the food temperature, which is detected by the thermistor, reaches the selected temperature and stops the oven functioning automatically. Current temperature of the food is displayed in rising 5°F increments starting at 100°F. If starting temperature is lower than 100°F, "L90F" signifying lower than 100°F and will be displayed until food reaches 100°F. See **Fig. 10** for circuit description.

NOTE: When the temp-hold feature is selected, the digital programmer circuit turns the variable power switch on and off to maintain the desired temperature within the period as selected. When the tempholding period has elapsed, the DPC turns off power relay A and power relay C and stops the oven.

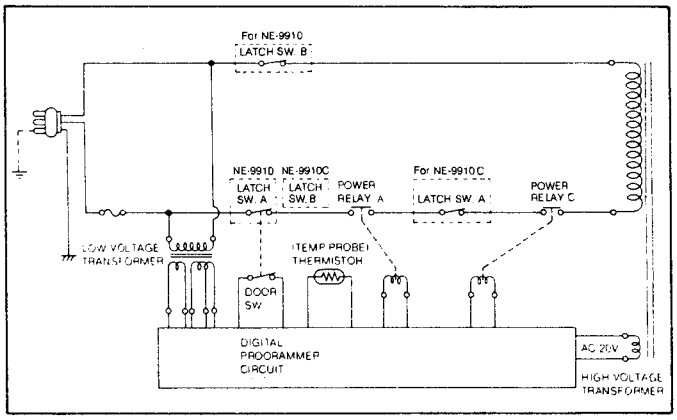


Fig. 10

CONVECTION COOKINO

1. Description of heater control

Please refer to **Fig. 11 and 12**.
The digital programmer circuit functions to control ON-OFF of the heater in order to control oven temperature.

(A) After the start pad is touched with the desired convection program set, 24V DC signal comes out from the digital programmer circuit and is applied to power relay A and B.
(B) When power relay B contacts close, power source voltage (115V AC) is applied to the heater.
(C) When the oven temperature reaches the desired temperature you set, the digital programmer circuit (D.P.C.) catches the signal through oven temp. sensor. Then the D.P.C. works to stop supplying 24V DC signal to power relay B.
(D) When no signal is applied to power relay B, heater will turn off.
(E) After oven heater turns off, the oven temperature will increase for a while and then reduce as shown in **Fig. 11**.
When oven temperature goes lower than desired temperature you set, D.P.C. catches the signal through the oven temp. sensor and D.P.C. starts to supply 24V DC signal to power relay B again.

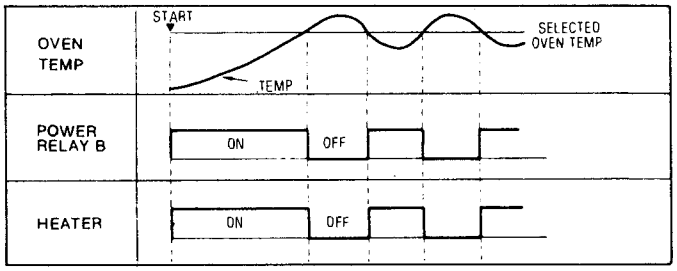


Fig. 11

COMBINATION COOKINO

1. Time and temperature probe cooking

Combination cooking combines both the functions of microwave and convection cooking. This is accomplished by microwave and convection cooking being done alternately during one combination cooking cycle.

Microwave Cooking

The variable power switch is energized intermittently. It turns on for 4 seconds and turns off for 18 seconds repeating the cycle of ON and OFF as shown in **Fig. 13**. This intermittent oscillation contributes to about 130W output in combination cooking program.

Convection cooking

The heater also turns on and off during combination cooking. The heater turns on only when the variable power switch turns off and microwave cooking stops. The heater turns off when the variable power switch contacts close and microwave cooking is in process. (see **Fig. 13**)

NOTE 1: Note that the heater may not be on during a heater on period if the preprogramed oven temperature has been reached.
This is due to the fact that the oven is keeping the preselected oven temperature constant, so of course the heater will only be on when it is needed and off when it is not needed. (see **Fig. 14**)

NOTE 2: As for temperatures of combination cooking for convection, the temperatures by each program are preprogramed in the microprocessor as shown in **Fig. 14**.

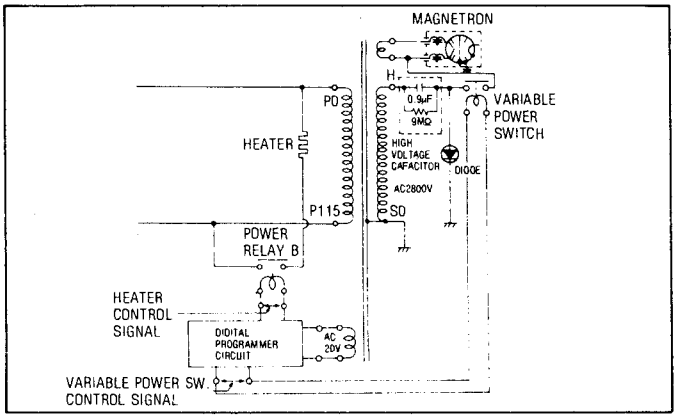


Fig. 12

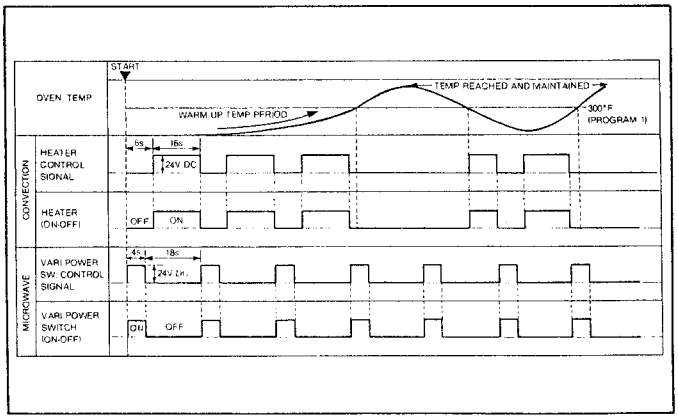


Fig. 13

COMBINATION PROGRAM	MICROWAVE POWER Pre-Programmed	OVEN TEMPERATURE Pre-Programmed
1	130W	300°F (149°C)
2	130W	325°F (163°C)

Fig. 14

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(A) Do not operate or allow the oven to be operated with the door open.
(B) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary :
  (1) Interlock operation
  (2) Proper door closing
  (3) Seal and sealing surfaces (arcing, wear, and other damage)
  (4) Damage to or loosening of hinges and latches.
  (5) Evidence of dropping or abuse
(C) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity and connections.
(D) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
(E) A microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

CAUTIONS TO BE OBSERVED WHEN TROUBLESHOOTING

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment. Though it is free from danger in ordinary use, extreme care should be taken during repair.

CAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

1. Check the grounding

Do not operate on a 2-wire extension cord. The microwave oven is designed to be used when grounded. It is imperative, therefore, to make sure it is grounded properly before beginning repair work.

2. Warning about the electric charge in the high voltage capacitor

For about 30 seconds after the oven stops, an electric charge remains in the high voltage capacitor. When replacing or checking parts, short between oven chassis and the lower terminal of variable power switch by an insulated screw driver to discharge. (see **Fig. 15**)

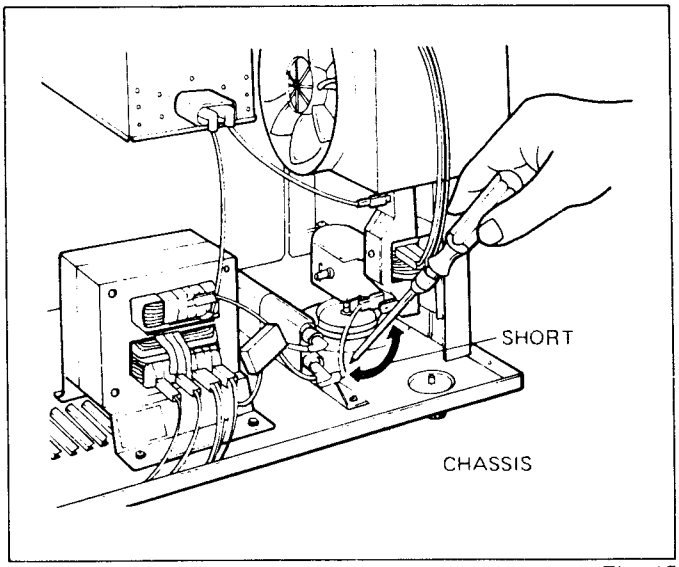


Fig. 15

WARNING

There is high-voltage present, with high-current capabilities in the circuits of the high voltage winding and filament winding of the high voltage transformer. It is extremely dangerous to work on or near these circuits with oven energized.

DO NOT measure the voltage in the high voltage circuit including filament voltage of magnetron.

WARNING

Never touch any circuit wiring with your hand nor with an insulated tool during operation.

3. When parts must be replaced, remove the power plug from the outlet.

4. When the 15 Amp fuse is blown due to the operation of short switch :

(A) Replace the latch switch A (primary), latch switch B (secondary) and short switch.....NE-9910
(B) Replace the latch switch B (primary) and short switch.....NE-9910C.
(C) This is mandatory. Refer to page 31 for the necessary adjustments for these switches.
(D) When replacing the fuse, confirm that it has the appropriate rating for this model.

5. Avoid inserting nails, wire, etc. through any holes in the unit during operation.

Never insert a wire, nail or any other metal object through the lamp holes on the cavity or any other holes or gaps, because such objects may work as an antenna and cause microwave leakage.

6. Confirm after repair

(A) After repair or replacement of parts, make sure that the screws of the oven, etc. are neither loose nor missing.
Microwaves might leak if screws are not properly tightened.
(B) Make sure that all electrical connections are tight before inserting the plug into the wall outlet.
(C) Check for radiation leakage, (Refer to procedure for measuring radiation leakage on page 32.)

DISASSEMBLY AND PARTS REPLACEMENT PROCEDURE

1. Replacemont of the magnetron

CAUTION

Servicemen should remove their watches whenever working close to or repairing the magnetron.

(A) Discharge the high voltage capacitor (see page 28)
(B) Remove air guide A by removing 2 screws holding it to the oven cavity.
Air guide A does not have to be taken out completely.
(C) Remove the 2 high voltage leads from filament terminals.
(D) Remove the 2 screws holding thermal cutout to magnetron.
(E) Remove the 4 nuts holding the magnetron.
NOTE 1: Make sure that the embossed ring is rigidly attached on the magnetron anode. (see **Fig. 16**).
NOTE 2: To prevent microwave leakage, tighten the mounting nuts properly making sure there is no gap between the waveguide and the magnetron.

CAUTION

When connecting 2 filament lead wires to the magnetron terminals, be sure to connect the lead wires in the correct position.
Namely, the lead wire of high voltage transformer should be connected to "**F** terminal" and the lead wire with protector from variable power switch should be connected to "FA terminal." (Refer to WIRING DIAGRAM on pages 23 and 24)

2. Replacement of the fan motor and heater fan motor. (see Fig. 17 and 18)

(A) Disconnect 2-pin connectors of fan motor and heater fan motor.
(B) Remove belts A, B and C.
(C) Remove variable power switch.
(D) Remove 8 screws holding fan motor bracket.

WHEN REPLACING FAN MOTOR

(E) Remove fan blade by removing nut
NOTE: This nut is counter clockwise type.
(F) Remove metal ground strap by removing screw.
(G) Remove fan motor by removing 3 screws and cushion rubbers.

WHEN REPLACING HEATER FAN MOTOR

(H) Remove pulley A by removing wire pin.
(I) Remove heater fan motor by removing 3 screws and cushion rubbers.
(J) Remove metal ground strap by removing screw.

3. Replacement of the digital programmer circuit (D.P.C.). (see Fig. 19 and 20)

(A) Disconnect 14-pin and 5-pin connectors from D.P.C.
(B) Remove 2 screws holding escutcheon base.
(C) Remove screw holding grounding wire of D.P.C.
(D) Remove 2 screws holding escutcheon base bracket to escutcheon base.
(E) Disconnect 10-pin connector of membrane switch from D.P.C.
(F) Remove the D.P.C. by removing 7 screws.

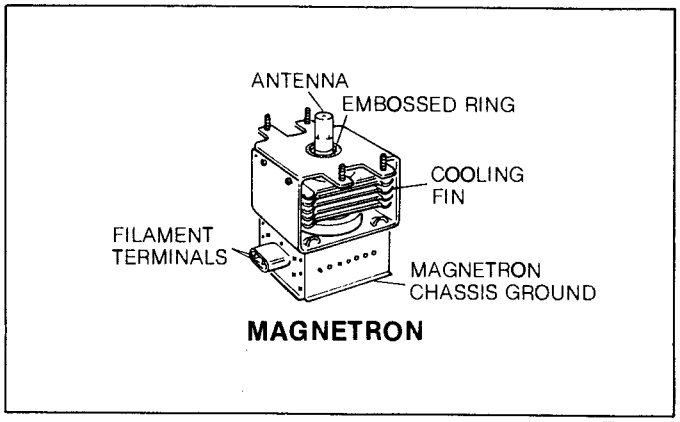


Fig. 16

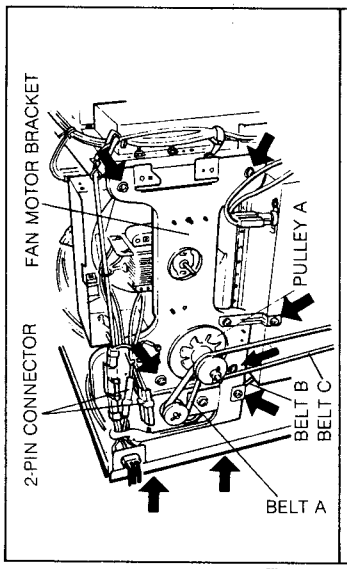


Fig. 17

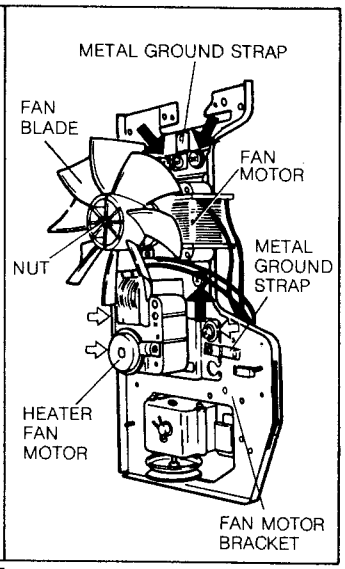


Fig. 18

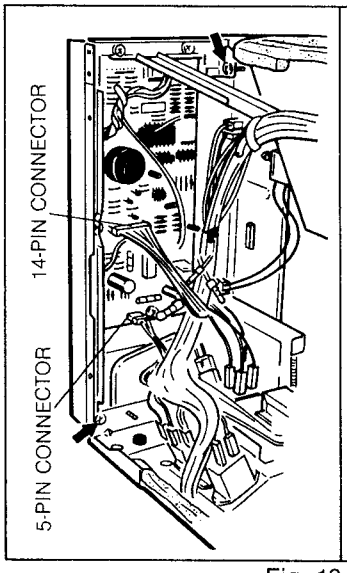


Fig. 19

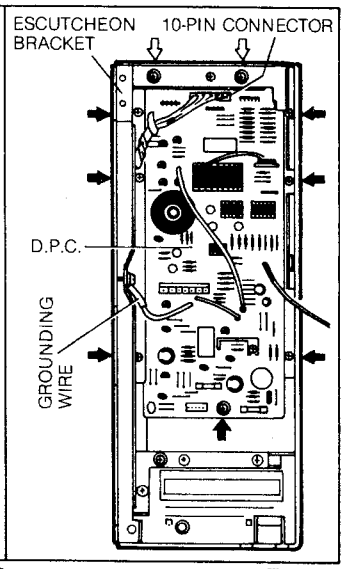


Fig. 20

4. Replacement of the heater. (see Fig. 21 and 22)

(A) Disconneot 2 lead wires from oven thermal cutout.
(B) Remove oven temp sensor by removing 2 screws.
(C) Remove 2 heater lead wires by removing screws and remove insulation panel A.
NOTE: Heater terminals are very easily bent, so please hold firmly, while loosening screws.
(D) Remove 10 screws holding heater panel.
(E) Remove circulation fan blade by removing nut.
NOTE: This nut is oounter clockwise type.
(F) Remove back panel B from back panel by removing screw.
(G) Remove the heater from back panel and heater supports.

5. Replacement of the door assembly.

(A) Remove the 2 bolts holding the upper hinge to the oven assembly.
(B) Open the door and while pulling the door toward you, work the upper hinge out through the hole in the oven assembly. The door will be simply lifted off the bottom hinge pin at the same time.
NOTE: Do not lose spacer at the lower hinge.
(C) When mounting the door assembly to the oven assembly, be sure to adjust the door assembly parallel to the sash by moving the upper hinge and lower hinge according to the directions in **Fig. 23**.
Also adjust so that the door has no play between the inner door surface and oven frame assembly. If the door assembly is not mounted properly, microwaves may leak from the clearance between the door and the oven. (see **Fig. 24**)

6. Replacement of oven temp sensor

(A) Cut shielded lead wire at the top of the sleeve, and remove 2 screws to take out, then replace with new one.
(B) To connect the lead wires to sensor, use enclosed lead wire connector supplied with replacement parts of oven temp sensor. (see **Fig. 25**)
NOTE: The lead wire connector should never be soldered to the oven temp. sensor terminals.
They can only be connected by using crimping tools designed for this purpose. Heat from the oven could melt some types of solder.

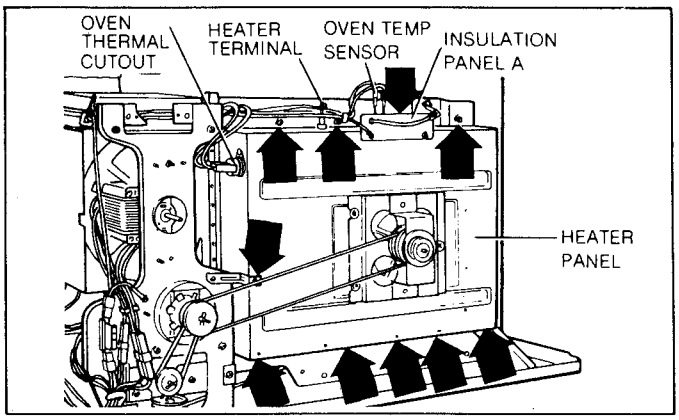


Fig. 21

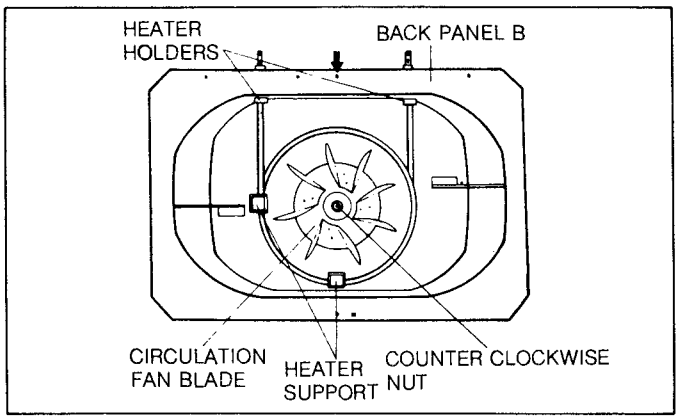


Fig. 22

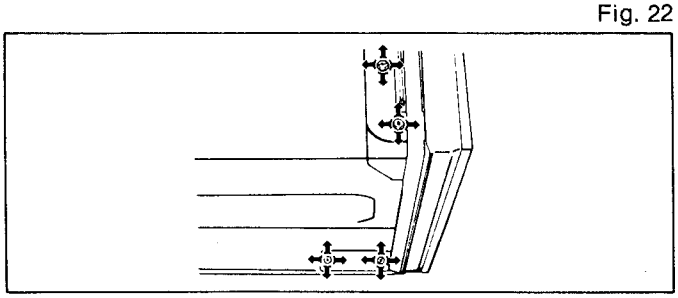


Fig. 23

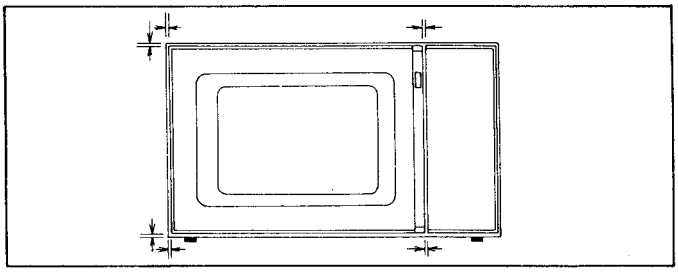


Fig. 24

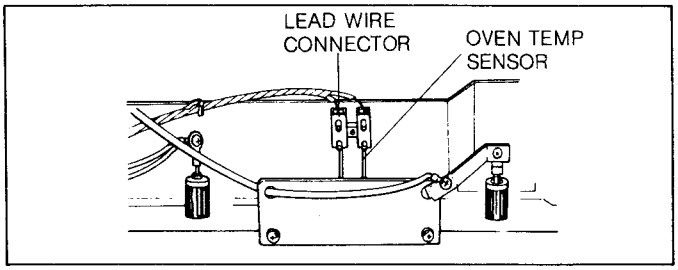


Fig. 25

MEASUREMENTS AND ADJUSTMENTS

NOTE: Please note this model has no test resistor for measuring diode or anode current. When you check the high voltage circuit, follow the procedure in the troubleshooting guide on page 33.

WARNING

For continued protection against radiation hazard, replace only with identical replacement parts (Part No. ANE6142-D60, Type No. V-15G-3C28 for latch switch A and B and Part No. ANE6158 B60AP, Type No. V-5-3C244 for short switch).

When the 15 Amp. fuse is blown due to the operation of short switch, you must replace latch switch A, latch switch B (latch switch A not needed for NE-9910C) and short switch then follow the adjustment procedures below.

1. Adjustment of latch switch A and door switch

(A) Mounting of the latch switch A and door switch to the door hook. Mount latch switch A and door switch to the door hook assembly by securing the screws as shown in **Fig. 26**.

NOTE: No specific adjustment during installation of latch switch A and door switch to the door hook is necessary.

(B) Installation of the door hook assembly to the oven assembly. When mounting the door hook assembly to the oven assembly, be sure to adjust the door hook assembly by moving in the arrow direction so that the oven door will not have any play in it. (see **Fig. 27**)
Check for play in the door by pulling on the door handle without pushing the handle's latch button. Make sure that the latch key positions correctly during adjustment. Also make sure that the latch key moves smoothly after adjustment is completed. Completely tighten the screws holding the door hook assembly to the oven assembly.

2. Adjustment of latch switch B, short switch and oven lamp switch

(A) Mounting of latch switch B, the short switch and oven lamp switch to the door hook assembly.
Latch switch B, short switch and oven lamp switch are installed onto the door hook assembly as shown in **Fig. 26**.

NOTE: No specific adjustment during installation of latch switch B, the short switch and oven lamp switch to the door hook is necessary.

(B) Installation of the door hook assembly to the oven assembly. Adjust the door hook by moving it in the direction of arrow in **Fig. 29** so that the oven door will not have any play in it. Check for play in the door by pulling on the door handle without pushing the handle's latch button. Make sure that the latch key moves smoothly after adjustment is completed. Completely tighten the screws holding the door hook assembly to the oven assembly.

3. Measurement of the magnetron's output

The power output of the magnetron can be measured by performing a simple water temperature rise test.
Equipment needed for the Test :
- Two 1 liter beakers
- One glass thermometer

NOTE : Check the line voltage under load. Low voltage will lower the magnetron output. Make all temperature and time tests with accurate equipment.

(A) Fill the two 1 liter beakers with water and mark one A and one B.

(B) Stir the water in each beaker with the thermometer and record each beaker's temperature:
Beaker A's temperature = T1A
Beaker B's temperature = T1B

(C) The average value (T1) of T1A and T1B is calculated as follows :

$$T1 = \frac{T1A + T1B}{2}$$

(D) Place both beakers on the center of the glass cook plate.
Set the oven for High power and set two minutes. Heat the water for exactly two minutes.

(E) When heating is finished, stir the water again with the thermometer and measure the temperature rises as T2A and T2B.

(F) The average value (T2) of T2A and T2B is calculated as follows :

$$T2 = \frac{T2A + T2B}{2}$$

(G) Subtract T1 from T2. This will give you the temperature rise.

(H) The normal temperature rise for this model is 16° to 20°F (8.9 to 11°C) at the "High" power selection.
- If no temperature rise is noted, refer to the "TROUBLESHCOTING GUIDE"

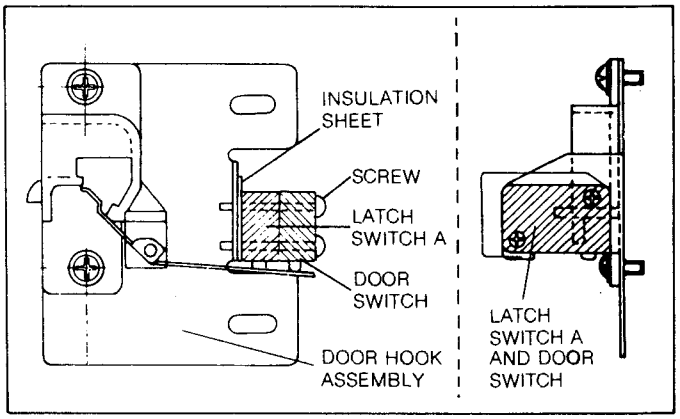


Fig. 26

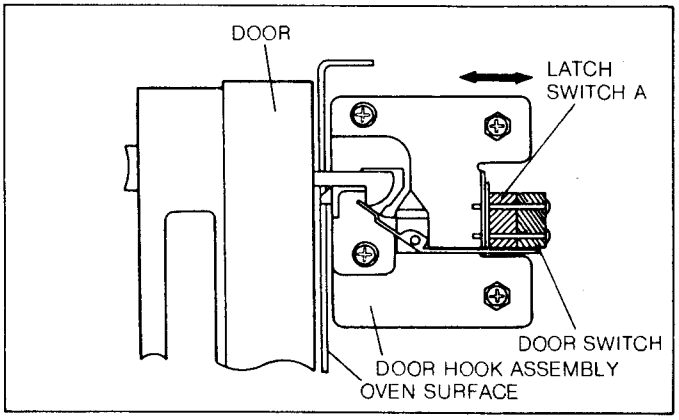


Fig. 27

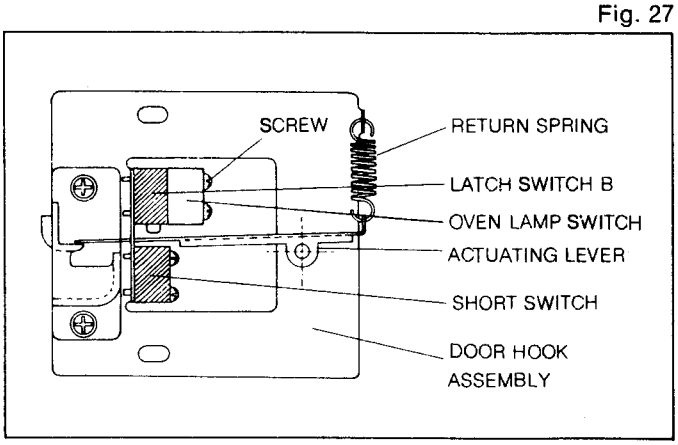


Fig. 28

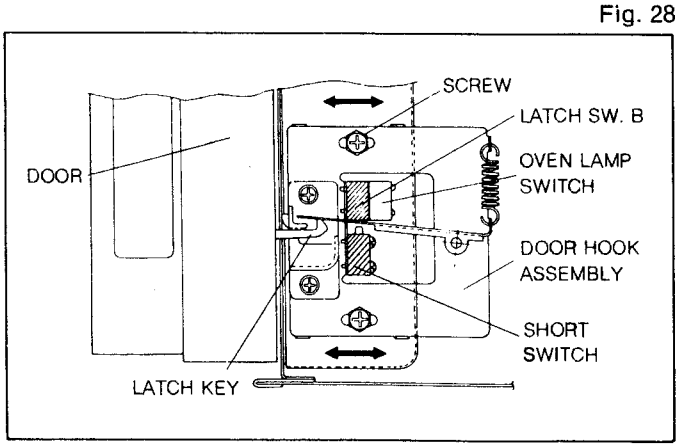


Fig. 29

PROCEDURE FOR MEASURING RADIATION LEAKAGE

WARNING

Check for radiation leakage after every servicing. Should the leakage be more than **2** mW/cm² (1 mW/cm² for Canada) inform the Panasonic Co. (MECA, PHI, PSC, or MELCA) immediately. After repairing or replacing any radiation safety device, keep a written record for future reference, as required by D.H.H.S and NHW regulation. This requirement must be strictly observed. In addition the leakage reading must be recorded on the service repair ticket while in the customer's home.

NOTE: The U.S. government standard is 5 mW/cm² while in the customer's home. 2 mW/cm² stated here is Panasonic's own voluntary standard.

1. Equipment

- •Electromagnetic radiation monitor
- •Glass thermometer 100°C or 212°F
- •600cc glass beaker

2. Prccedure for measuring radiation leakage.

Note before measuring

(1) Do not exceed meter full scale deflection. Leakage monitor should initially be set to the highest scale.

(2) To prevent false readings the test probe should be held by the grip portion of the handle only and moved along the shaded area shown in **Fig. 31** *no faster than 1 inch/sec (2.5 cm/sec)*

(3) Leakage with the outer panel removed.....less than 5 mW/cm²

(4) Leakage for a fully assembled oven with door normally closed.....less than 2 mW/cm² (1 mW/cm² for Canada)

(5) Leakage for a fully assembled oven [Before the latch switch (primary) is interrupted] while pulling on the door handle.....less than 2 mW/cm²

(A) Pour 275 ± 15cc (9ozs ± 1/2oz) of 20 ± 5°C (68 ± 9°F) (50 cc for Canada) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.

(B) Set the radiation monitor to 2450MHz and use it following the manufacturer's recommended test procedure to assure correct results.

(C) When measuring the leakage, always use the 2 inch (5 cm) spacer supplied with the probe.

(D) Press the start button and with the magnetron oscillating, measure the leakage by holding the probe perpendicular to the surface being measured.

(1) Measurement with the outer panel removed.

Whenever you replace the magnetron, measure for radiation leakage before the outer panel is installed and after all necessary components are replaced or adjusted.

Special care should be taken in measuring around the magnetron. (see **Fig. 30**)

WARNING

Avoid contacting any high voltage parts.

(2) Measurements with a fully assembled oven.

After all components, including the outer panel, are fully assembled, measure for radiation leakage around the door periphery, the door viewing window, the exhaust opening and air inlet openings.

3. Record keeping and notification after measurement

(A) After any adjustment or repair to a microwave oven a leakage reading must be taken. Record this leakage reading on the repair ticket even if it is zero.

A copy of this repair ticket and the microwave leakage reading should be kept by repair facility.

(B) Should the radiation leakage be more than 2 mW/cm² (1 mW/cm² for Canada) after determining that all parts are in good condition, functioning properly, and genuine replacement parts as listed in this manual have been used, immediately notify the PANASONIC CO. (MECA, PHI, PSC or MELCA).

4. At least once a year, have the radiation monitor checked for calibration by its manufacturer.

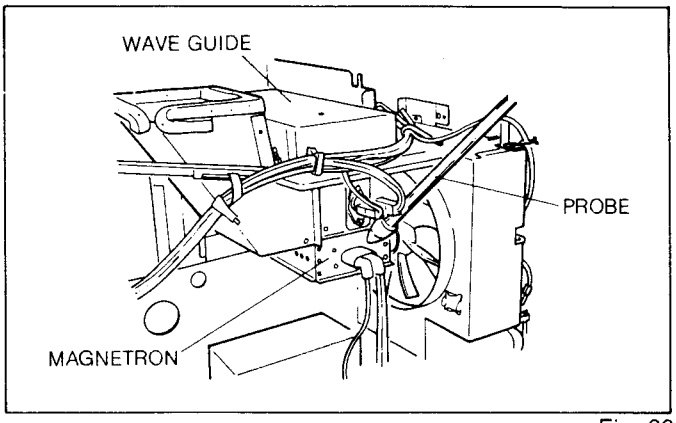


Fig. 30

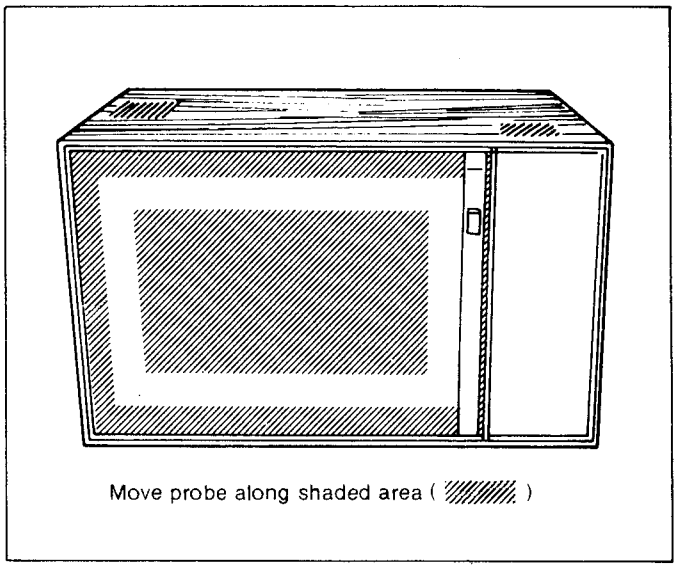


Fig. 31

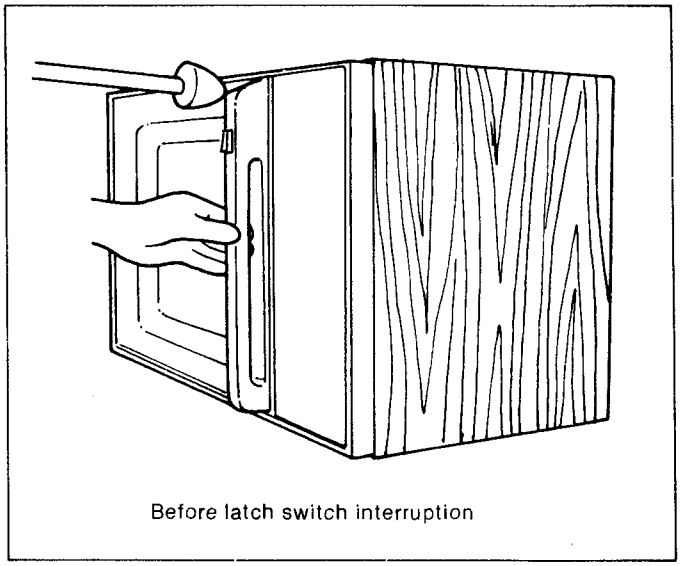


Fig. 32

TROUBLESHOOTING GUIDE

CAUTION

1. Check grounding before checking for trouble.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor. (See page 28)
4. When checking the continuity of the switches or of the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.
5. Do not touch any part of the circuitry on the digital programmer circuit since static electric discharge may damage this control panel.
   Always touch yourself to ground while working on this panel to discharge any static charge built up in your body.

First of all operate the microwave oven following the correct operating procedures described on pages 3 — 20 in order to find exact cause of any trouble.

[TROUBLE 1] The following visual conditions indicate a probable defective digital programmer circuit (D.P.C.) or membrane switch assembly.

A . 1. Incomplete segments.
   A. Segments missing.
   B. Partial segments missing.
   C. Digit flickering other than normal fluorescent slight flickering.
   D. Colon does not turn on or does not blink when the clock set button is pressed.
2. A distinct change in the brightness of one or more numbers in the display.
3. One or more digits in the display not on when they should be.
4. Wrong or no power indicator light for power level selected.
5. Display indicates a number different from one touched.
   For example, touch 5 and 3 appears in the display. (Refer to B)
6. Specific numbers (for example 2 or 3) will not display.
7. Display does not count down with time cooking or when using display as a timer.
8. Display does not count up with clock operation.
9. Oven is programmable and cooks normally but no display shows.
10. Display obviously jumps in time while counting down or up.
11. Display counts down noticeably too fast while cooking.
12. Display can not shift from the first stage cooking to the second stage cooking while 2-phase cooking.
13. Display does not stop counting down with time cooking even when stop pad is tapped.
14. TOD does not reappear when cooking is finished.

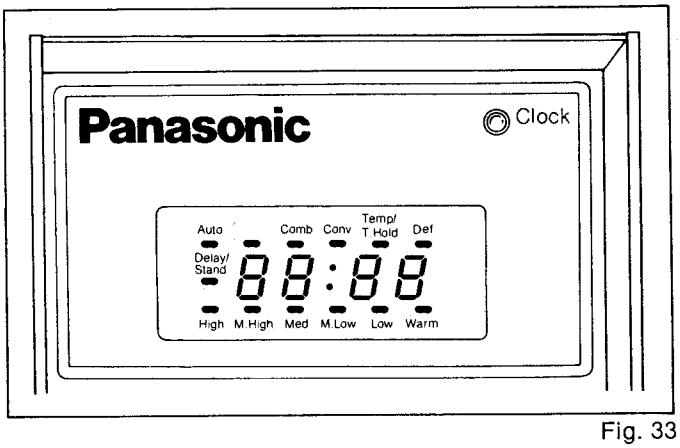


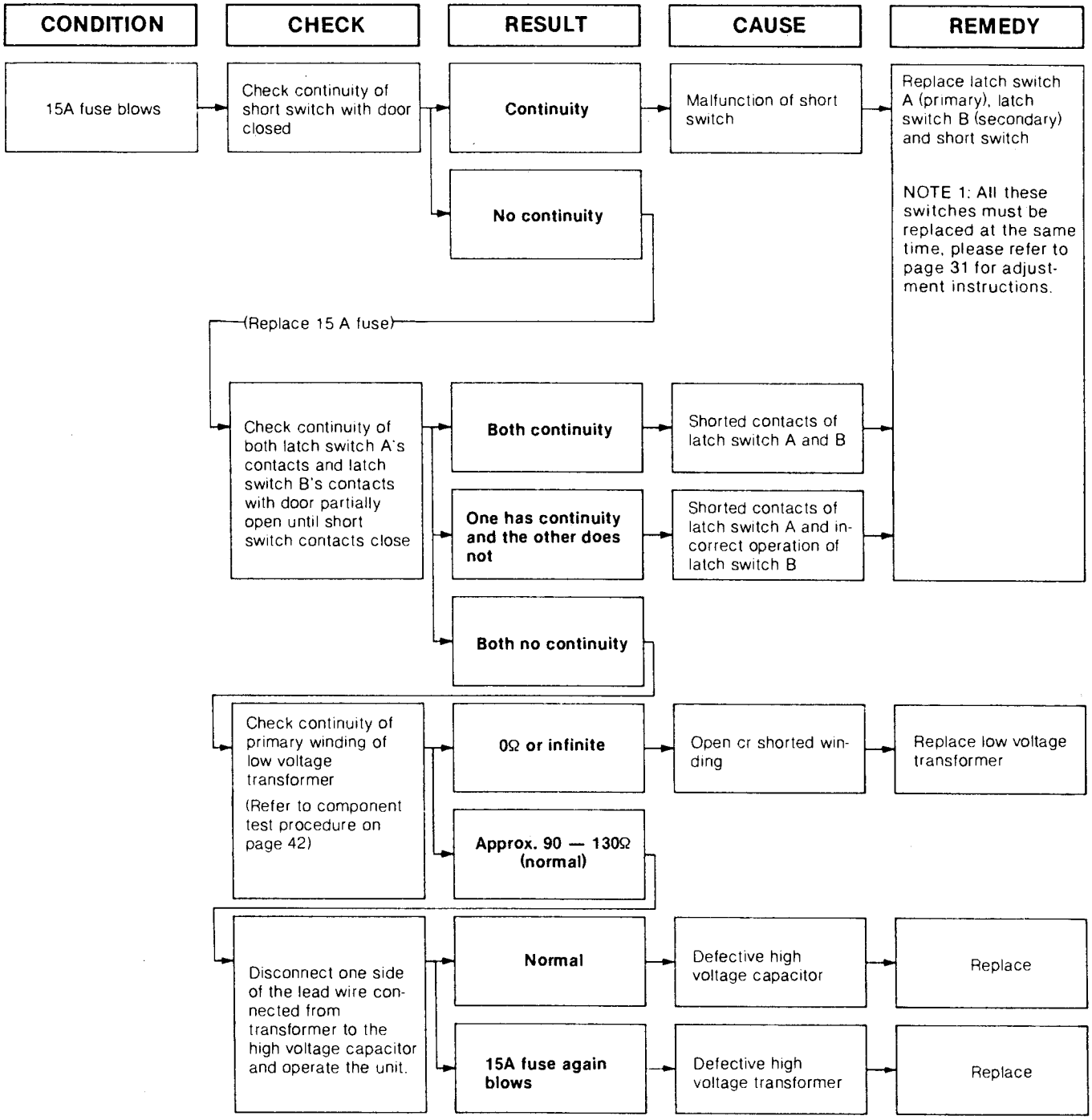
Fig. 33

B.

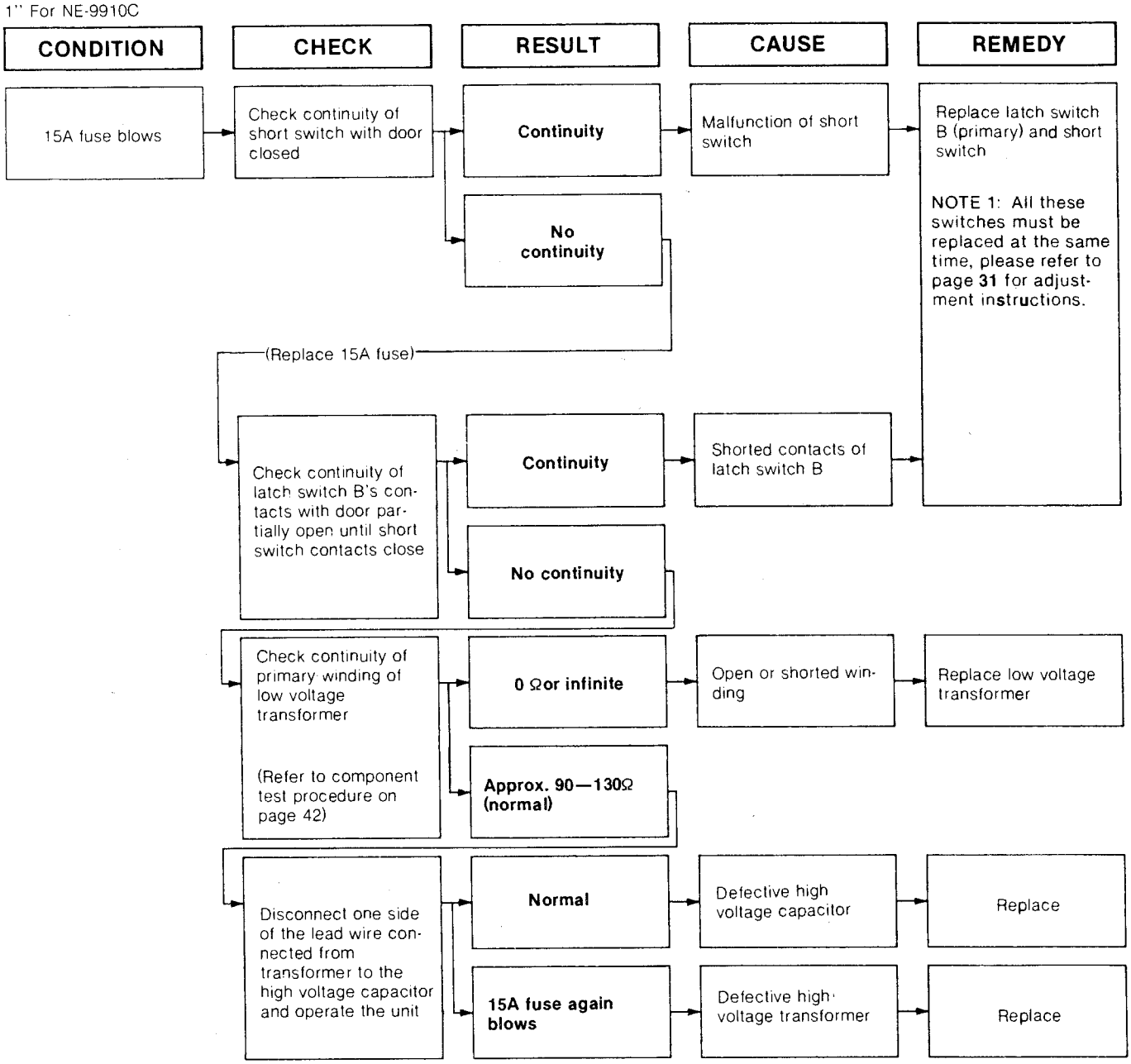
	CONDITION	CHECK	RESULT	CAUSE	REMEDY
1.	No input can be programmed	Unplug 10 pin connector from DPC and press clock set button. (see Fig. 20 on page 29)	**Clock set can be programmed.**	Defective membrane switch assembly	Replace membrane switch assembly
2.	Clock set cannot be programmed at all		**Clock set cannot be programmed**	Defective DPC.	Replace DPC.
3.	Some inputs cannot be programmed	Replace membrane switch assembly and check if it works now?	**Everything works as specified.**	Defective membrane switch assembly	Replace membrane switch assembly
4.	Display indicates a number or figure different from one touched		**Still have trouble**	Defective DPC.	Replace DPC.
5.	Random programming when pressing other than touch pads or without pressing any at all (intermittently)				

[TROUBLE 2] Oven does not operate at all ; Display window does not display any figures and any inputs can not be accepted.

1. For NE-9910

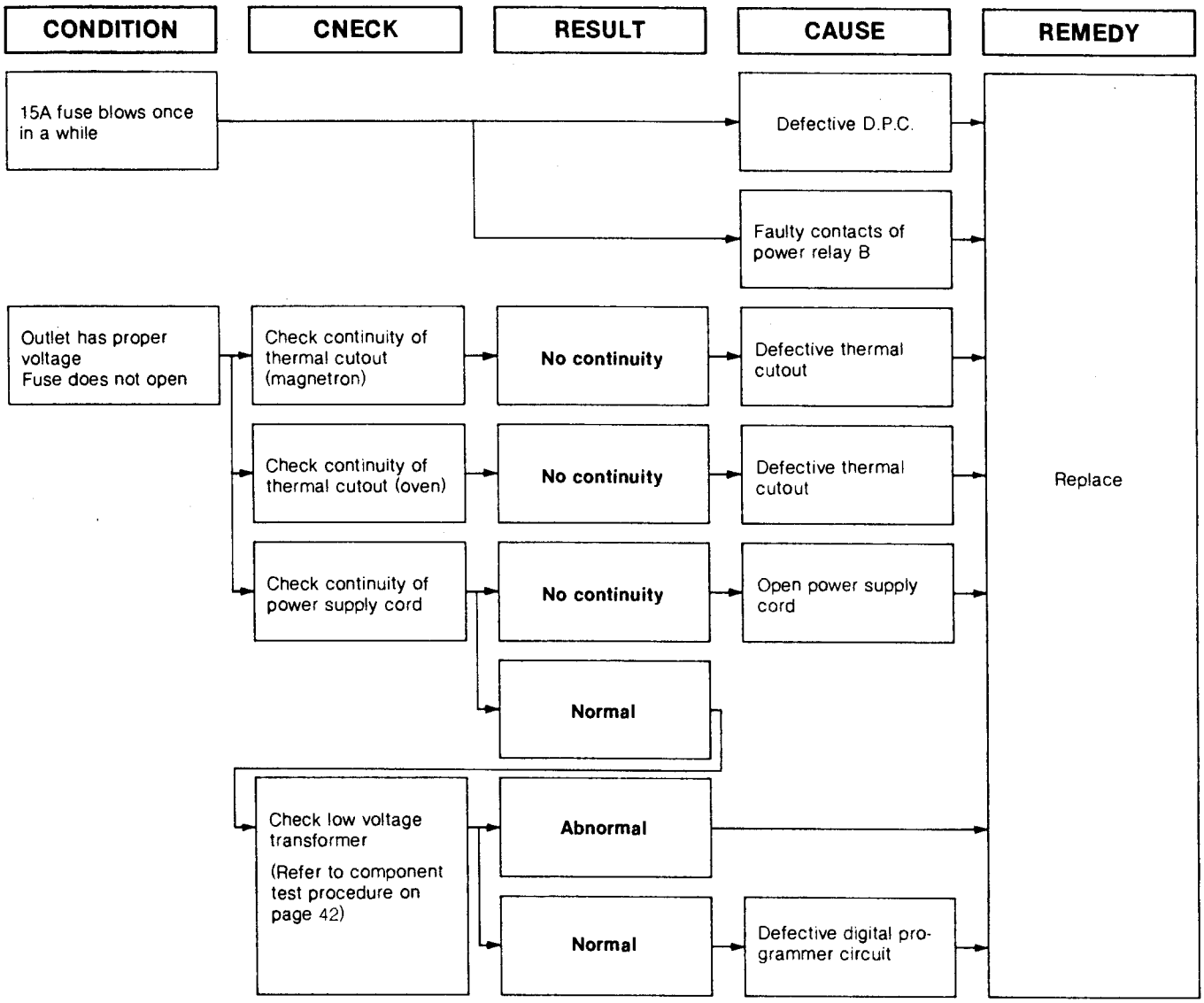

CONDITION
CHECK
RESULT
CAUSE
REMEDY
15A fuse blows
Check continuity of short switch with door closed
Continuity
Malfunction of short switch
Replace latch switch A (primary), latch switch B (secondary) and short switch
NOTE 1: All these switches must be replaced at the same time, please refer to page 31 for adjustment instructions.
No continuity
(Replace 15 A fuse)
Check continuity of both latch switch A's contacts and latch switch B's contacts with door partially open until short switch contacts close
Both continuity
Shorted contacts of latch switch A and B
One has continuity and the other does not
Shorted contacts of latch switch A and incorrect operation of latch switch B
Both no continuity
Check continuity of primary winding of low voltage transformer
(Refer to component test procedure on page 42)
0Ω or infinite
Open cr shorted winding
Replace low voltage transformer
Approx. 90 — 130Ω (normal)
Disconnect one side of the lead wire connected from transformer to the high voltage capacitor and operate the unit.
Normal
Defective high voltage capacitor
Replace
15A fuse again blows
Defective high voltage transformer
Replace

1" For NE-9910C

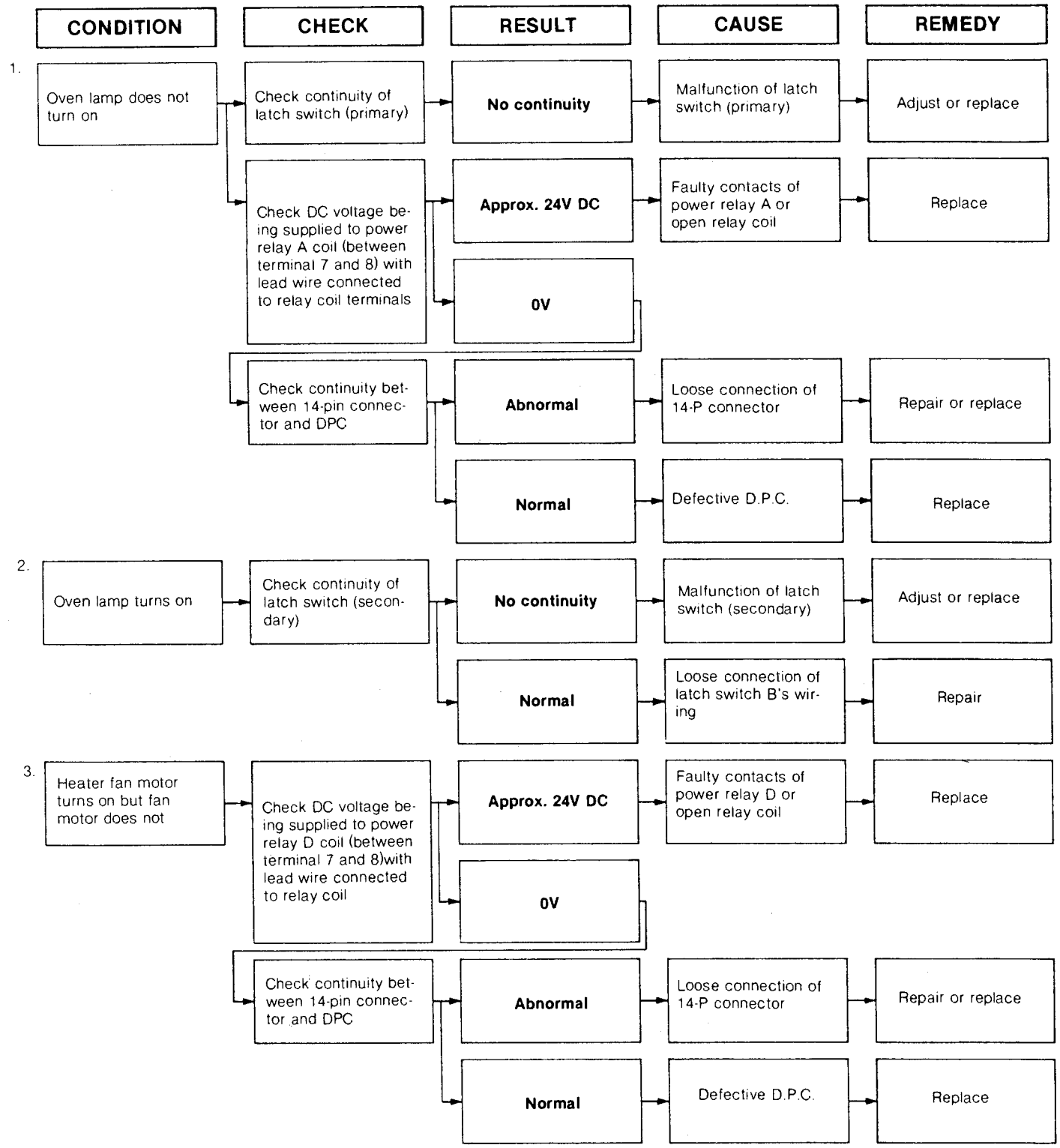

CONDITION
CHECK
RESULT
CAUSE
REMEDY
15A fuse blows
Check continuity of short switch with door closed
Continuity
Malfunction of short switch
Replace latch switch B (primary) and short switch
NOTE 1: All these switches must be replaced at the same time, please refer to page 31 for adjustment instructions.
No continuity
(Replace 15A fuse)
Check continuity of latch switch B's contacts with door partially open until short switch contacts close
Continuity
Shorted contacts of latch switch B
No continuity
Check continuity of primary winding of low voltage transformer
(Refer to component test procedure on page 42)
0 Ωor infinite
Open or shorted winding
Replace low voltage transformer
Approx. 90—130Ω (normal)
Disconnect one side of the lead wire connected from transformer to the high voltage capacitor and operate the unit
Normal
Defective high voltage capacitor
Replace
15A fuse again blows
Defective high voltage transformer
Replace

2. After replacing the fuse or turning on the home circuit breaker, the oven works for a while then the fuse or circuit breaker opens again. This may be caused by both the heater and microwave oscillation working at the same time, this will cause the unit to draw too much current.

3.



[TROUBLE 3] Display shows all figures selected, but oven does not start cooking even though desired program and time are set and start pad is tapped. (Cooking time counts down.)


CONDITION
CHECK
RESULT
CAUSE
REMEDY
1.
Oven lamp does not turn on
Check continuity of latch switch (primary)
No continuity
Malfunction of latch switch (primary)
Adjust or replace
Check DC voltage being supplied to power relay A coil (between terminal 7 and 8) with lead wire connected to relay coil terminals
Approx. 24V DC
Faulty contacts of power relay A or open relay coil
Replace
0V
Check continuity between 14-pin connector and DPC
Abnormal
Loose connection of 14-P connector
Repair or replace
Normal
Defective D.P.C.
Replace
2.
Oven lamp turns on
Check continuity of latch switch (secondary)
No continuity
Malfunction of latch switch (secondary)
Adjust or replace
Normal
Loose connection of latch switch B's wiring
Repair
3.
Heater fan motor turns on but fan motor does not
Check DC voltage being supplied to power relay D coil (between terminal 7 and 8)with lead wire connected to relay coil
Approx. 24V DC
Faulty contacts of power relay D or open relay coil
Replace
0V
Check continuity between 14-pin connector and DPC
Abnormal
Loose connection of 14-P connector
Repair or replace
Normal
Defective D.P.C.
Replace

	CONDITION	CHECK	RESULT	CAUSE	REMEDY
4.	Fan motor and heater fan motor turn on	Check continuity of primary winding or digital programmer circuit winding of high voltage trans. (Refer to component test procedure on page 42)	**No continuity**	Open winding	Replace
			Normal	Defective digital programmer circuist	Replace

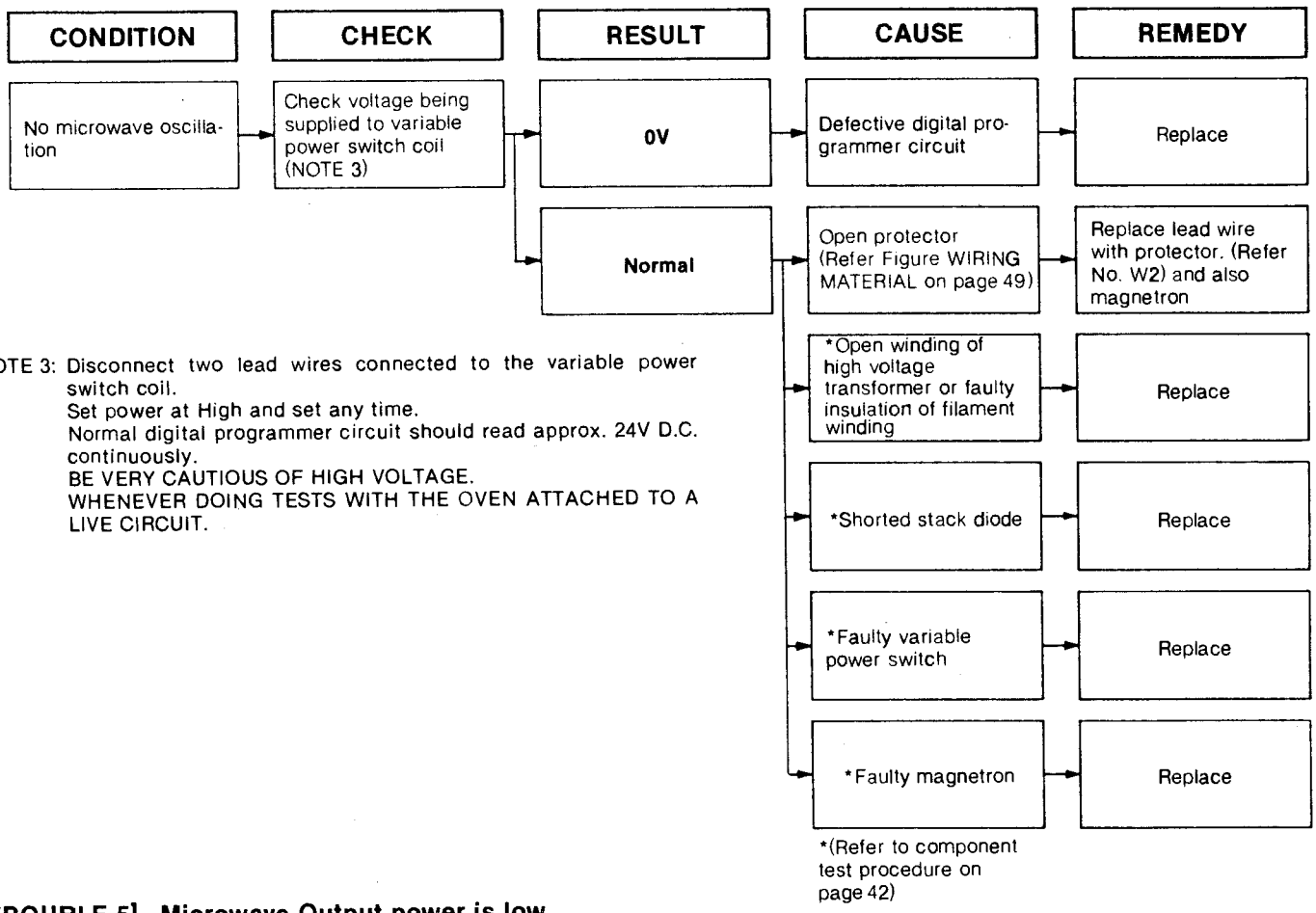
5. Cooking time does not count down.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Oven lamp turns on for a second when start pad is tapped	Check continuity of door switch	**No continuity**	Malfunction of door switch	Adjust or replace
		Normal	Loose connection of door switch's wiring	Repair

6. "FF FF" appears in display window.

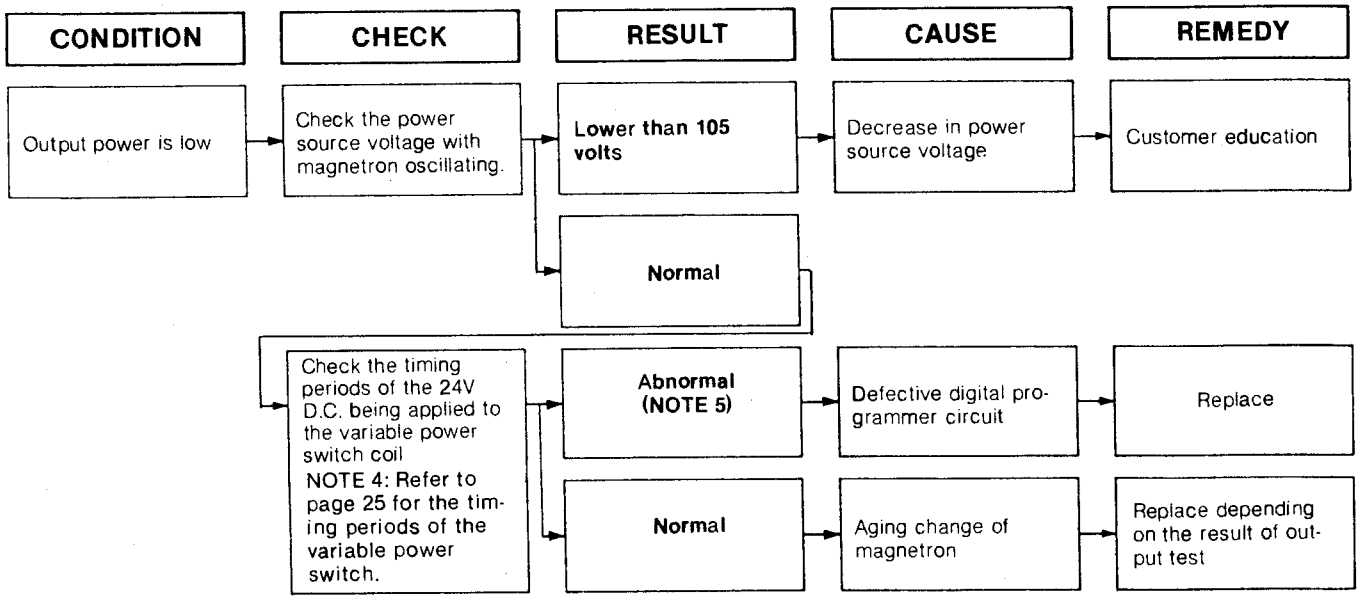
CONDITION	CHECK	RESULT	CAUSE	REMEDY
"FF FF" appears in display window when start pad is tapped NOTE 2: "FF FF" also appears in display window when convection cooking or combination cooking selected.	Check oven temp. sensor (Refer to component test procedure on page 43)	**Abnormal**	Defective oven temp sensor	Replace
		Normal	Defective digital programmer circuit	Replace

[TROUBLE 4] No microwave oscillation even though fan motor rotates.



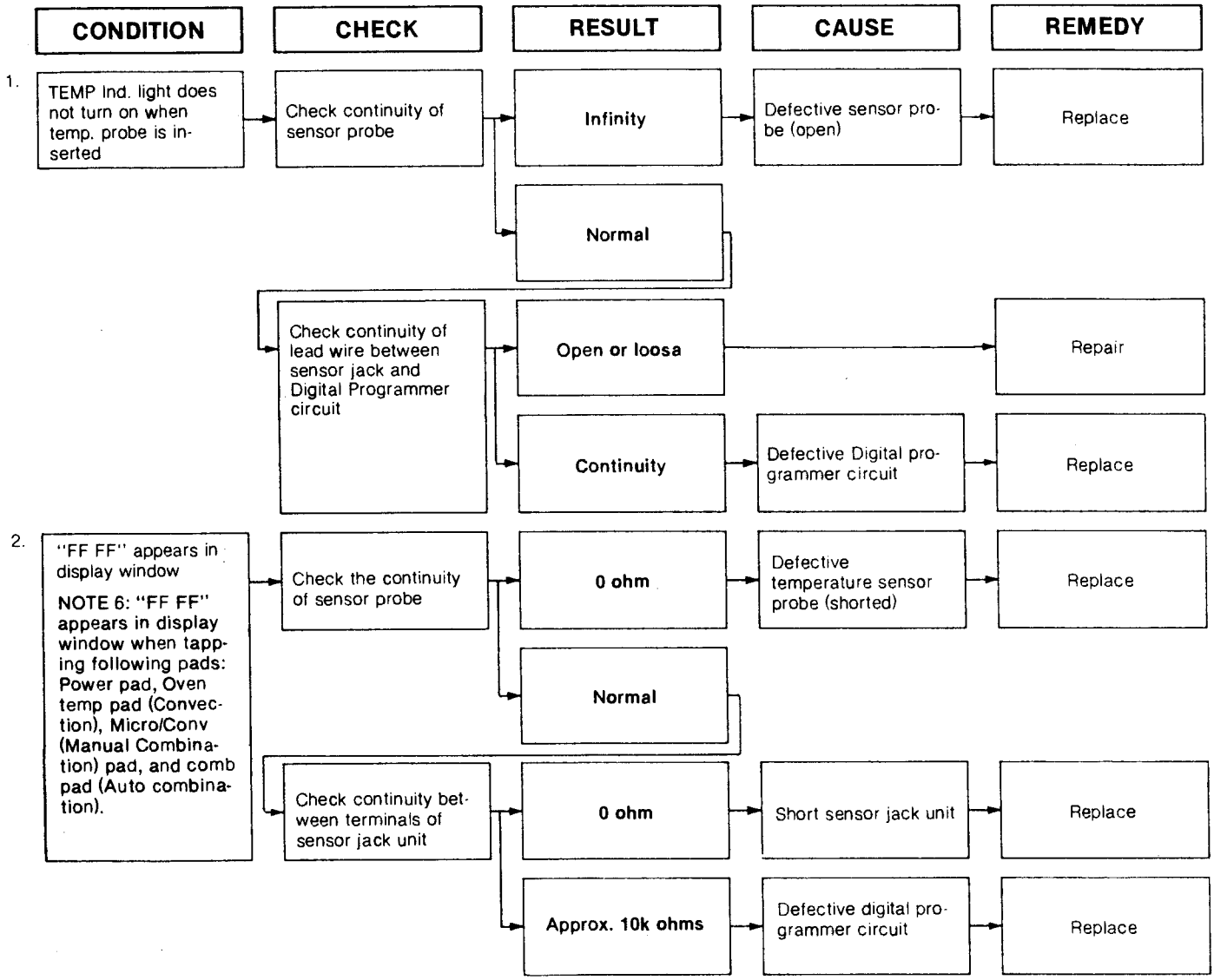
NOTE 3: Disconnect two lead wires connected to the variable power switch coil.
Set power at High and set any time.
Normal digital programmer circuit should read approx. 24V D.C. continuously.
BE VERY CAUTIOUS OF HIGH VOLTAGE.
WHENEVER DOING TESTS WITH THE OVEN ATTACHED TO A LIVE CIRCUIT.

[TROUBLE 5] Microwave Output power is low.
First of all, check if output power is really low following "measurement of magnetron's output" on page 31.

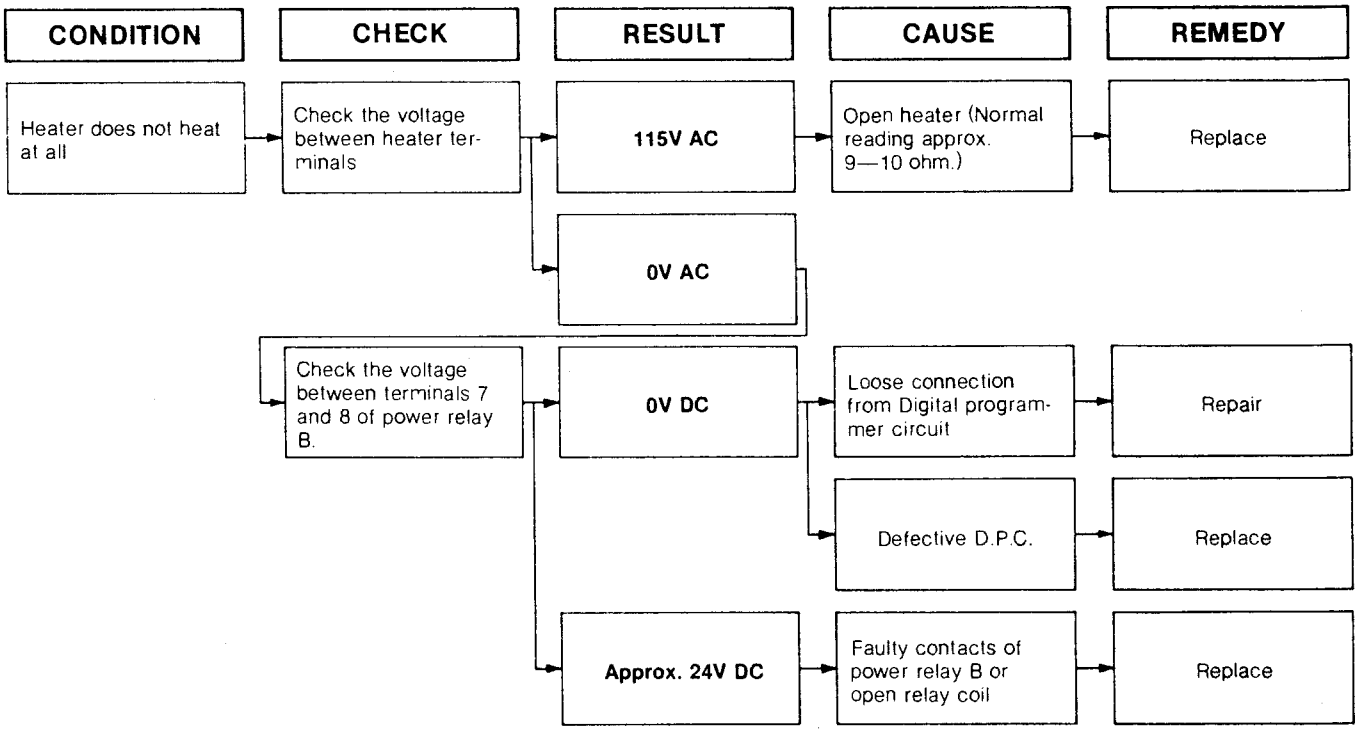

CONDITION
CHECK
RESULT
CAUSE
REMEDY
Output power is low
Check the power source voltage with magnetron oscillating.
Lower than 105 volts
Decrease in power source voltage
Customer education
Normal
Check the timing periods of the 24V D.C. being applied to the variable power switch coil
NOTE 4: Refer to page 25 for the timing periods of the variable power switch.
Abnormal (NOTE 5)
Defective digital programmer circuit
Replace
Normal
Aging change of magnetron
Replace depending on the result of output test

NOTE 5: If variable power switch is always energized, in other words the microwave oven always operates at "High" power, even if the selected program is other than high, it will cause the fuse to blow. This is similar to TROUBLE 2 — 2 on page 36.

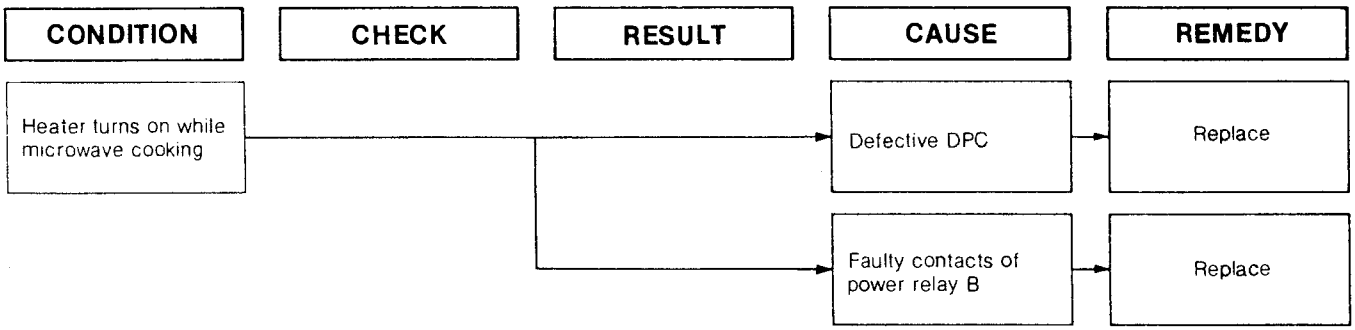
[TROUBLE 6] Microwave oven does not operate normally when using temperature probe.



[TROUBLE 7] Microwave program works normally, but convection program does not.



[TROUBLE 8] Heater turns on even while in a microwave cooking mode.
In this case, this trouble should also be causing the fuse and/or home circuit breaker to open.



[TROUBLE 9] Combination cooking is not working in correct order.

The following chart shows the timing period of variable power switch (microwave oscillation) and power relay B (Heater) for combination program.
If the timing period is other than specified, it may be caused by a faulty power relay B or D.P.C.

1. When oven temperature is lower than programmed. (see **Fig. 34**)

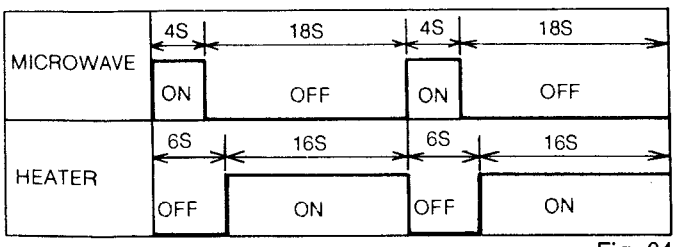


Fig. 34

2. When oven temperature is higher than programmed. (see **Fig. 35**)

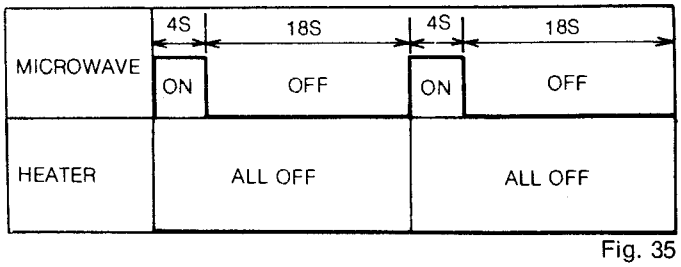


Fig. 35

COMPONENT TEST PROCEDURE

CAUTION

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components, or wiring, always unplug the oven from its power source and discharge the capacitor. (See page 28)

1. High voltage transformer (see Fig. 36)

(A) Remove connections from the transformer terminals and check continuity.
(B) Normal readings should be as follows:

Secondary winding	Approx. 50Ω—100Ω
Filament winding	Approx. 0Ω
Primary winding	Approx. 0Ω
Fourth winding	Approx. 0Ω

2. High voltage capacitor

(A) Check continuity of capacitor with meter on highest OHM scale.
(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.
(C) A shorted capacitor will show continuous continuity.
(D) An open capacitor will show constant 9MΩ.
(E) Resistance between each terminal and chassis should be infinite.

3. Diode

The diode is located on the base near the transformer.
(A) Isolate the diode from the circuit by disconnecting the leads.
(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-to-back resistance of the diode, otherwise an infinite resistance may be read in both directions.
A normal diode's resistance will be infinite in one direction and several hundred KΩ in the other direction.

4. Magnotron (soe Fig. 37)

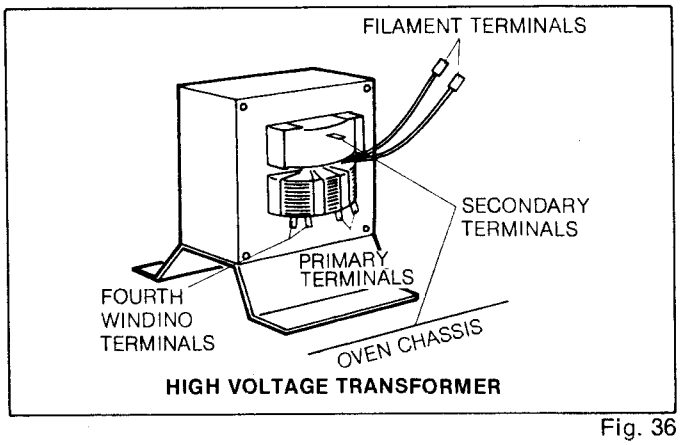
Continuity checks can only indicate an open filament or a shorted magnetron. To diagnose for an open filament or shorted magnetron.
(A) Isolate magnetron from the circuit by disconnecting the leads.
(B) A continuity check across magnetron filament terminals should indicate one ohm or less.
(C) A continuity check between each filament terminal and magnetron case should read open.

5. Variable power switch (see Fig. 38)

(A) Isolate the variable power switch by disconnecting all leads and check continuity.
(B) A continuity check across the switch coil should indicate approx. 200 ohm.
(C) A continuity check between switch terminals should indicate an infinite resistance.
(D) A continuity check between each switch terminal and ground metal should indicate an infinite resistance.
(E) Switch terminals should have continuity when approximately 24V DC is applied across the coil from an external source.

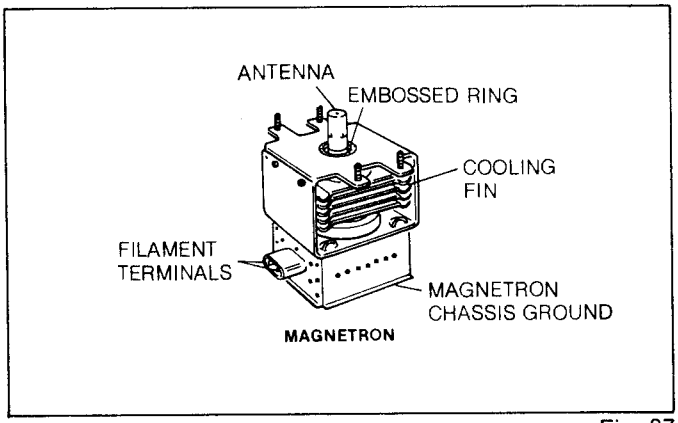
6. Low voltage transformer (see Fig. 39)

Check the voltage of primary and secondary winding of the low voltage transformer (L.V.T.).
The normal voltages of L.V.T. with no load should read as shown in **Fig. 40**.
When measuring the voltage of L.V.T. measure the voltage between each pin of the plastic connector with the connector unplugged.



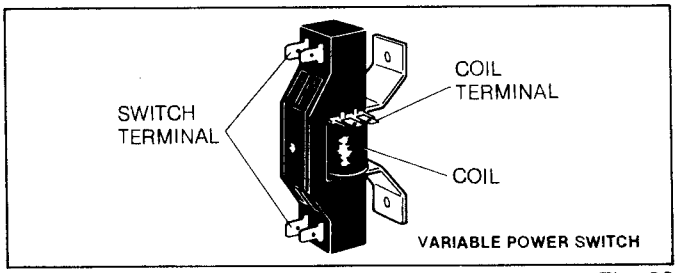
HIGH VOLTAGE TRANSFORMER

Fig. 36



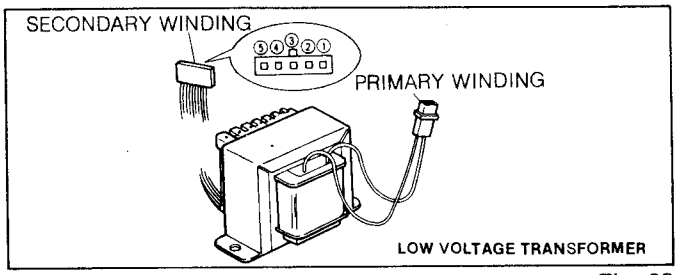
MAGNETRON

Fig. 37



VARIABLE POWER SWITCH

Fig. 38



LOW VOLTAGE TRANSFORMER

Fig. 39

Primary voltage.....115V AC

Secondary Winding	Secondary Voltage
1 Red — 2 Yellow	24.7V ± 10%
2 Yellow — 3 White	24.8V ± 10%
4 Blue — 5 Blue	3.0V ± 10%

Fig. 40

7. To test the sensor probe's thermistor (see Fig. 41)

Fill a container partially with lukewarm water and place a thermometer in it. Then take the sensor probe out of the oven and place it in the container next to the thermometer so they will both sense the exact same temperature. Now take another container with boiling hot water and gradually pour this into the first container to achieve graduated temperature steps. At each temperature step listed in the chart (**Fig. 41**), you should read the approximate corresponding resistance with an ohmmeter. If not, the probe is difective and shcuid be replaced.

NOTE : Of cource all of the above steps are very dependent upon the accuracy of the ohmmeter, thermometer, and human error. Please take these factors carefully into consideration before determining if the probe is defective.

Temp.		Thermistor Resistance Nominal (kΩ)	Temp.		Thermistor Resistance Nominal (kΩ)
(°C)	(°F)		(°C)	(°F)	
30	86	44.4	60	140	13.7
35	95	35.9	65	149	11.5
40	104	29.3	70	158	9.7
45	113	24.0	75	167	8.2
50	122	19.8	80	176	.7.0
55	131	16.4	85	185	6.0
			90	194	5.1

Fig. 41

8. To test the oven temp sensor thermistor

This sensor monitors the heat produced by the heater circuit and maintains the oven temperature the user had selected. Normal room temperature, especially in a kitchen can vary anywhere from 50°F to 90°F. The reading across the oven sensor thermistor should be within 360K ohm to 800K ohm when read in an area within the 50°F to 90°F room temperature range.

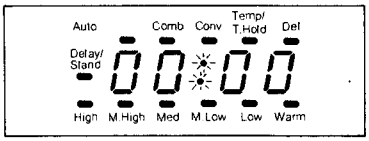
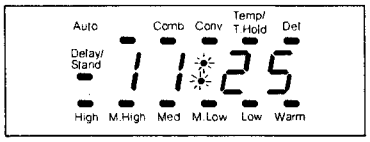
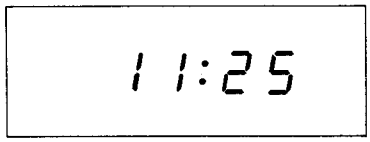
If the resistance reading is out of the range stated here, the sensor is defective and must be replaced.

NOTE 1: When measuring resistance disconnect the 14 pin connector (CN2) from the DPC otherwise a false reading may be indicated.

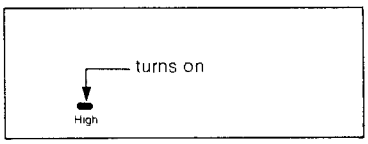
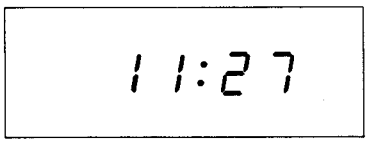
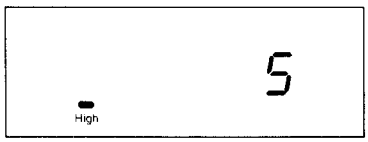
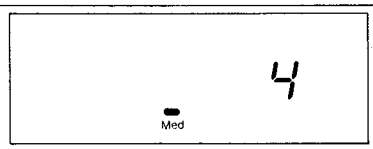
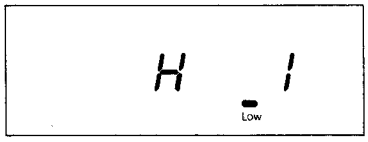
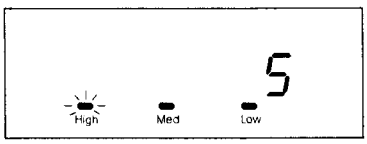
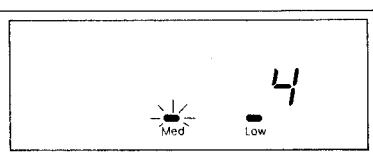
NOTE 2: If checking an oven sensor thermistor just after the microwave oven has been operating, the sensor of course will not be at room temperature. In this case the sensor must be removed and allowed to cool down to the 50°F to 90°F range.

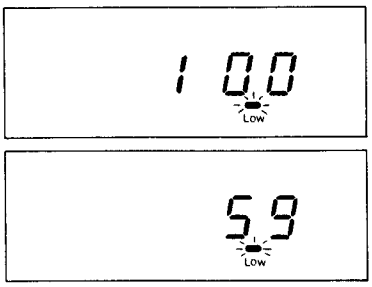
DIGITAL PROGRAMMER CIRCUIT TEST PROCEDURE

1. TO SET CLOCK

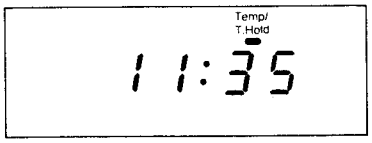
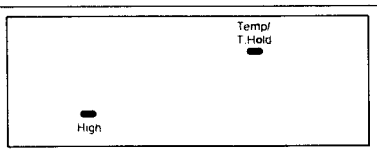
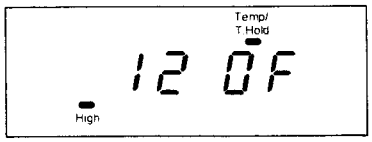
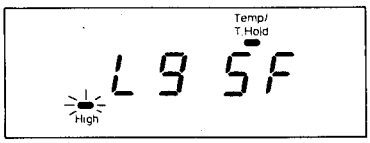
STEP	OPERATION	FUNCTION	DISPLAY
1	Plug the power supply cable into wall receptacle.	• Colon starts blinking. • Function indicator lights turn on. • 00:00 appears.	
2	Enter time of day (T.O.D.) by tapping appropriate number pads. Example : To Set 11 : 25 • Tap 10 min pad once • Tap 1 min pad once • Tap 10 sec pad twice • Tap 1 sec pad 5 times	• Numbers tapped are displayed on the display window. • Colon keeps blinking.	
3	Push Clock Set Button.	• Colon stops blinking and stays on. • T.O.D. has now been registered into the digital programmer circuit and will count up by minutes. • Function indicator lights turn off.	

2. TIME COOKING/THREE STAGE COOKING

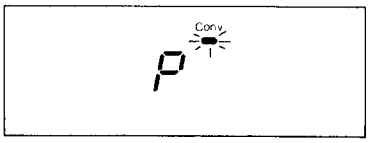
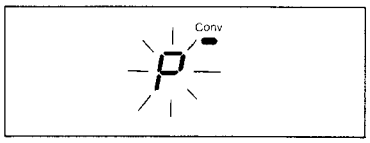
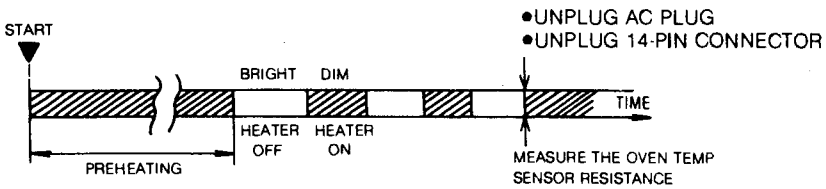
STEP	OPERATION	FUNCTION	DISPLAY
1	Place a water load in the oven.		
2	Tap power Pad. (Example : Tap power select pad once for high power setting.)	• Clock time disappears. • "HIGH" power indicator light turns on.	
3	Tap Stop/Reset Pad.	• The display window will show T.O.D. again.	
4	Select "HIGH" power and set for 5 seconds by tapping the appropriate pads. (1st stage)	• Clock time disappears. • "HIGH" Power indicator light turns on. • Display window shows "5".	
5	Set MED power for 4 seconds. (2nd stage)	• First stage cooking time "5" and "HIGH" power indicator light disappear. • "MED" power indicator light turns on. • Display window shows "4".	
6	Set LOW power for 1 minute. (3rd stage) Tap power select pad 5 times and [1] second pad once.	• Second stage cooking time "4" and "MED" power indicator light disappear. • "LOW" power indicator light turns on. • Display window shows "H 1". NOTE : When low power is selected, H meaning Hour appears in display window and cooking time is shown in hours and minutes.	
7	Tap Start Pad. (1st stage)	• Oven light turns on. • Microwave activity starts. • Third stage cooking time disappears. • Turntable begins to rotate. • First stage cooking time "5" appears and counts down by seconds. • "HIGH" and "MED" Power ind. light appear and "HIGH" Power ind. light begins to blink.	
8	(2nd stage)	• After completing 1st stage program, oven automatically switches to 2nd stage. • Power indicator light switches to "MED" and starts blinking. • Display window indicates "4" and starts counting down by seconds.	

STEP	OPERATION	FUNCTION	DISPLAY
9	(3rd stage)	• After completing 2nd stage program, oven automatically switches to 3rd stage. • "LOW" Power indicator light starts blinking. • Display indicates "1 00" and starts counting down by seconds.	
10	When third stage cooking ends, oven beeps five times and shuts off automatically.		*T.O.D. appears in display window.

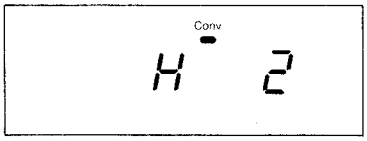
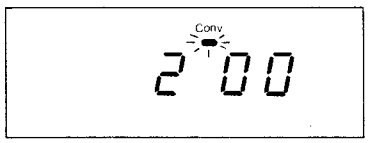
3. TEMPERATURE PROBE COOKING

STEP	OPERATION	FUNCTION	DISPLAY
1	Remove the hot water load from the oven and replace with a cold water load. Insert the sensor probe into the water load and connect the probe jack into its receptacle. NOTE : Sensor probe must be into water more than one inch.	• TEMP/T.HOLD indicator light turns on. • Clock time stays on.	
2	Tap power select pad. (Example : Tap power select pad once for high power setting)	• Clock time disappears. • "HIGH" power indicator light turns on.	
3	Tap temp probe pad 3 times	• "12 0F" appears in display window.	
4	Tap start pad.	• Oven lamp turns on. • Microwave activity starts. • Turntable begins to rotate. • "HIGH" power indicator light begins to blink. • Current temperature of food is displayed in rising 5°F increments starting at 100°F. If starting temperature is lower than 100°F, "L95F" (meaning lower than 100°F) will be displayed until food reaches 100°F.	
		• When water temperature is raised to 120°F ± 11°F, oven beeps five times and shuts off automatically. • T.O.D. appears in the display window.	
5	Measure the water temperature by placing the thermometer in the cup right next to the probe. In this manner they will both sense the same exact temperature the allowable temperature range is 120°F ± 11°F.		
6	Remove the temperature probe from oven wall receptacle.	• "TEMP/T.HOLD" indicator light turns off.	
7	Remove the hot water from the oven. Be sure to check T.O.D. is correct.		

4. CONVECTION COOKING (Preheating)

STEP	OPERATION	FUNCTION	DISPLAY
1	Be sure to place only the white glass ceramic tray in the oven.		
2	Tap oven temp pad twice.	• Clock time disappears. • "CONV" indicator light turns on. • "22 5F" appears in the display window.	
3	Tap start pad.	• "P" (meaning preheating) appears in the display window. • "CONV" begins to blink. • Oven light turns on. • Turntable begins to rotate.	
		• When preheating is completed, oven beeps three times. • "P" begins to blink. • "CONV" indicator light stops blinking and stays on. • Oven light stays on and turntable continues to rotate. • After preheating is completed, oven light should intermittently become a little bright and dim. Wait for a couple of bright and dim cycles. This indicates that heater turns on and off to keep a oonstant oven temp.	
4	As soon as oven light dims unplug the AC power plug and 14-PIN connector from DPC. Measure the oven sensor resistance with ohmmeter as soon as possible. It should read (approx) 70 — 110 kohm.  Fig. 42 CAUTION: TO PREVENT BURNS KEEP YOUR BODY, HANDS AND FINGERS AWAY FROM THE OVEN. THE OVEN OETS VERY HOT BOTH DURING AND AFTER HEATER OPERATION. NOTE : The programmed temperature of 225°F, will be read around the center of the oven, the temp read at the area of the oven sensor can be up to 50°F higher. NOTE : If door is not opened after preheating, oven will maintain the selected temperature for 30 minutes. After 30 minutes, oven will shut off automatically.	

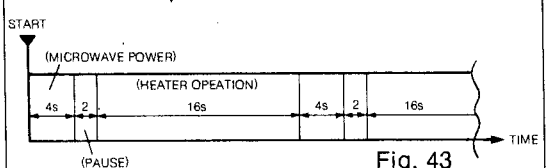
5. CONVECTION COOKING (Time cooking)

STEP	OPERATION	FUNCTION	DISPLAY
1	After completion of preheating, be sure to open the door.	• When door is opened, turntable stops rotating. • "P" stops blinking and stays on.	
2	Set cooking time for 2 min.	• "P" disappears in the display window. • "H 2" appears in the display window.	
3	Tap start pad.	• Oven light turns on. • Turntable begins to rotate. • Convection oooking begins. • "CONV" indicator light begins to blink. • Cooking time counts down.	
		• When cooking is oompleted, oven beeps five times and shuts off automatically. • Turntable stops rotating. • "CONV" indioator light turns off. • T.O.D. appears in the display window.	

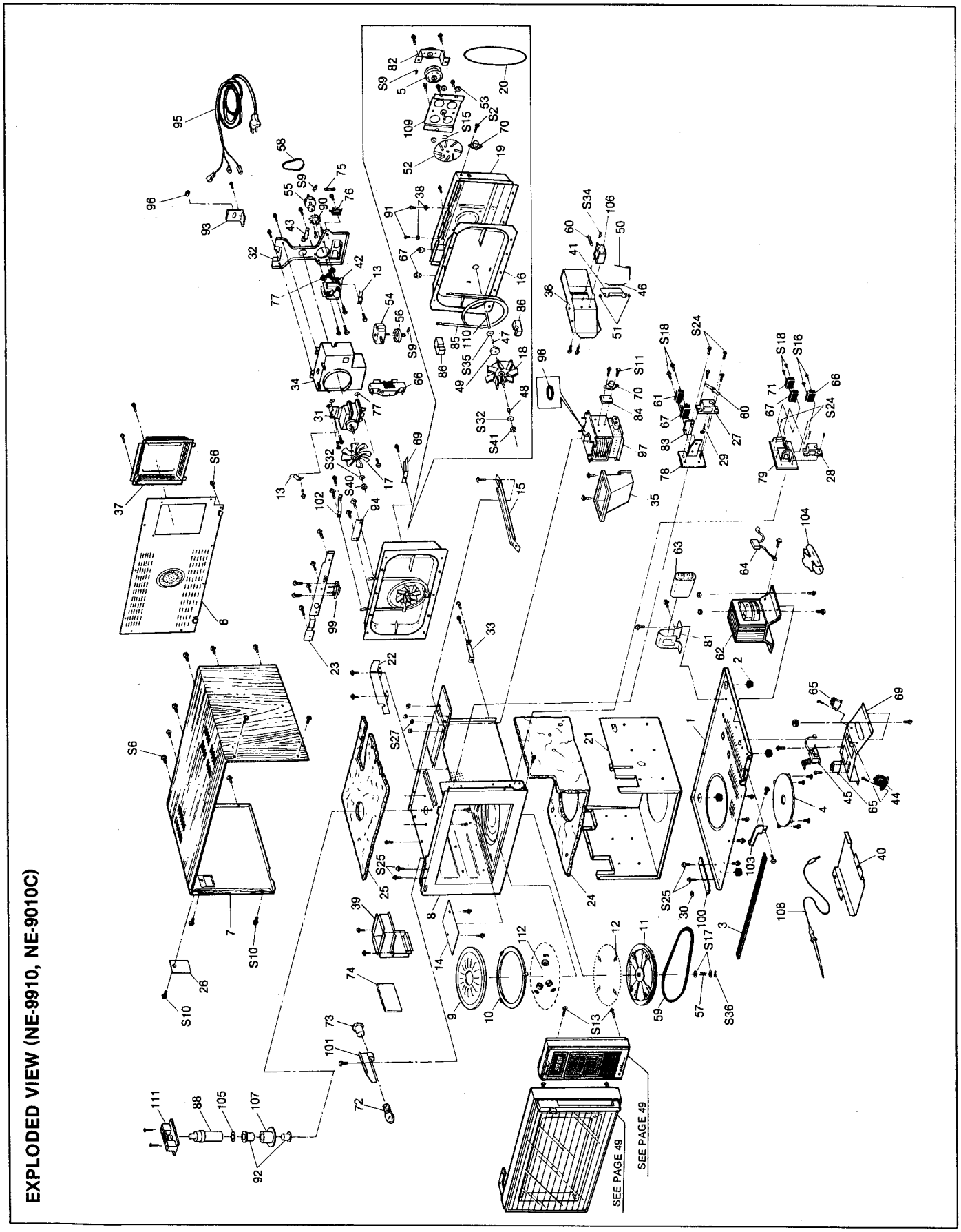
6. COMBINATION COOKING (Automatic cooking)

STEP	OPERATION	FUNCTION	DISPLAY
1	Insert temperature probe into the water load and connect probe jack to oven ceiling receptacle.	• "TEMP/T.HOLD" indicator light turns on.	Temp/ T Hold 11:50
2	Tap Comb (Automatic cooking) pad twice	• Clock time disappears. • "AUTO" cooking indicator light turns on. • "COMB" indicator light turns on. • "C2" appears in the display window.	Auto Comb Temp/ T Hold C 2
3	Tap start pad.	• Oven light turns on. • Turntable begins to rotate. • Combination cooking begins. • "COMB" indicator light begins to blink. • Current temperature of food is displayed in rising 5°F increments starting at 100°F. If starting tempeature is lower than 100°F, "L95F" (meaning lower than 100°F) will be displayed until food reaches 100°F. NOTE : During auto combination cooking there is a 22 second base time. The 22 second is divided as follows. (see **Fig. 43**) • a 4 second microwave power period • a 16 second convection heater operation period • a 2 second pause period	Auto Comb Temp/ T Hold L95F
		• When water temperature rises to 130°F ± 11°F, oven beeps five times and shuts off automatically. • T.O.D. appears in the display window.	
4	Measure the water temperature by placing the thermometer in the cup right next to the probe. This in manner they will both sense the same exact temperature. The allowable temperature range is 130°F ± 11°F.		
5	Remove the temperature probe from oven ceiling receptacle.	• "TEMP/T.HOLD" indicator light turns off.	
6	Remove the hot water from the oven. Be sure to check T.O.D. is correct.		

7. COMBINATION COOKING (Time cooking)

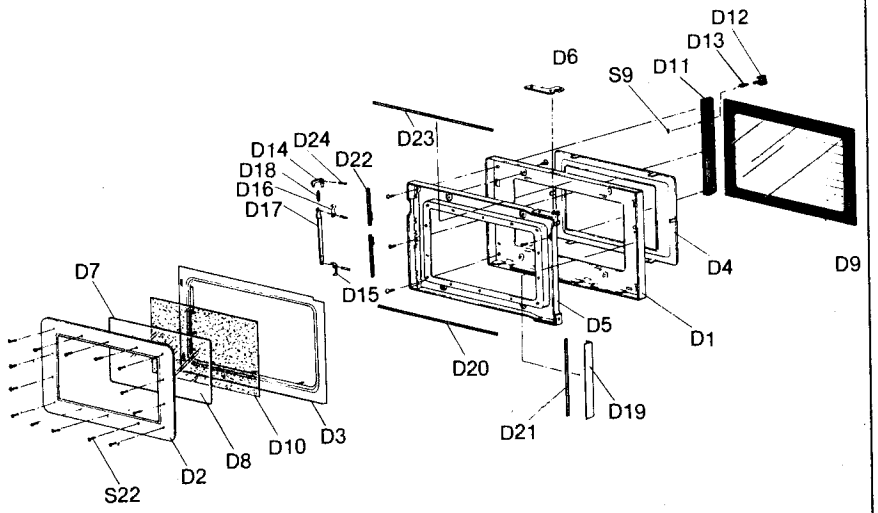
STEP	OPERATION	FUNCTION	DISPLAY
1	Tap combination (Micro/Conv) pad twice.	• Cycle number "2" appears in the display window. • "COMB" indicator light turns on.	Comb 2
2	Set cooking time for 2 min.	• "H 2" appears in display window.	Comb H 2
3	Tap start pad.	• Oven lamp turns on. • Combination cooking begins. • "COMB" indicator light begins to blink. • Turntable begins to rotate. • Cooking time starts to count down. NOTE : During combination cooking, in every 22 second time period, the cooking modes are switched with a 4 seoond miorowave power period a 2 second pause then 16 seconds of convection heater operation.  Fig. 43	Comb 2 00

EXPLODED VIEW AND PARTS LIST

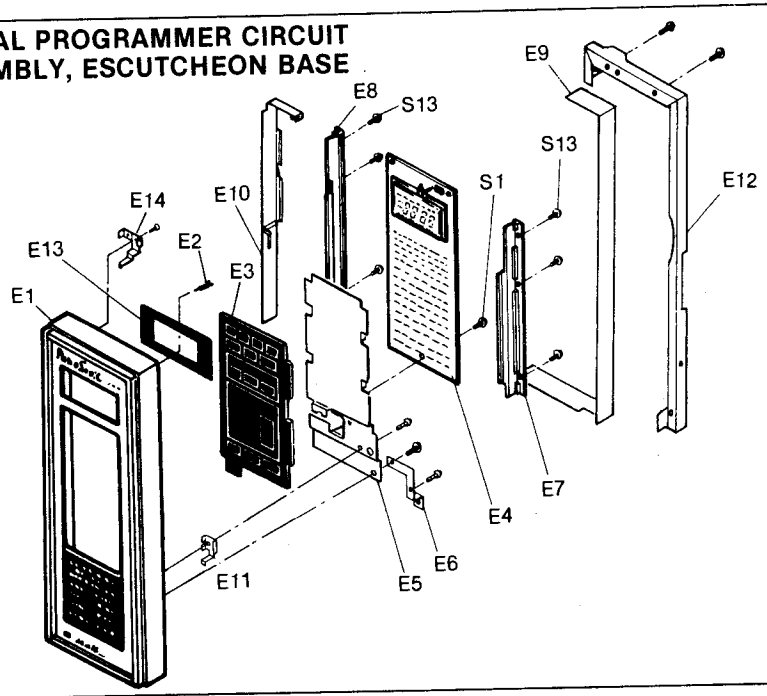


EXPLODED VIEW (NE-9910, NE-9010C)

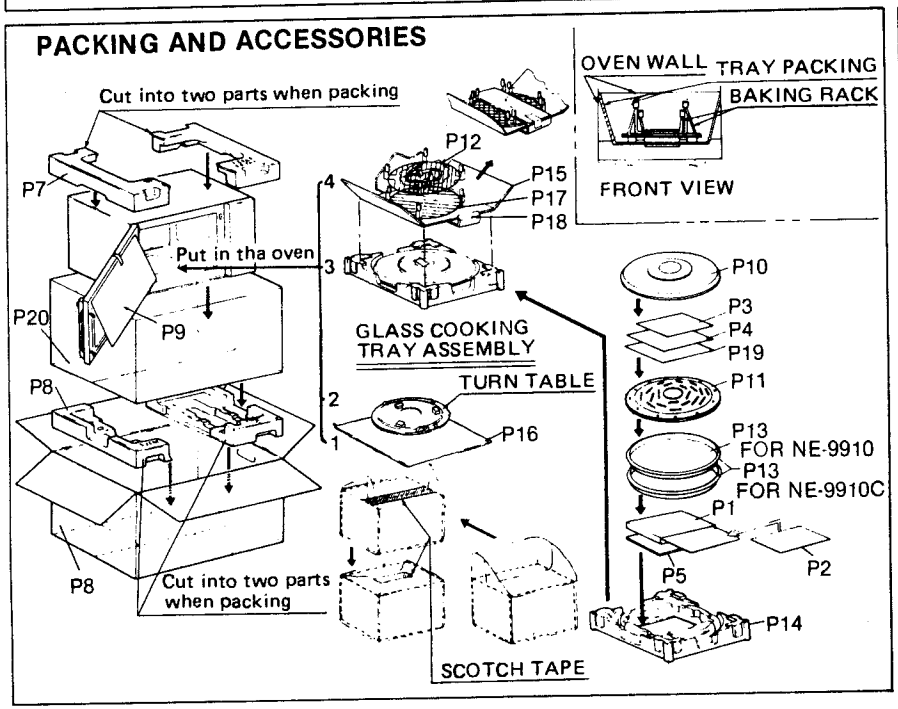
DOOR ASSEMBLY



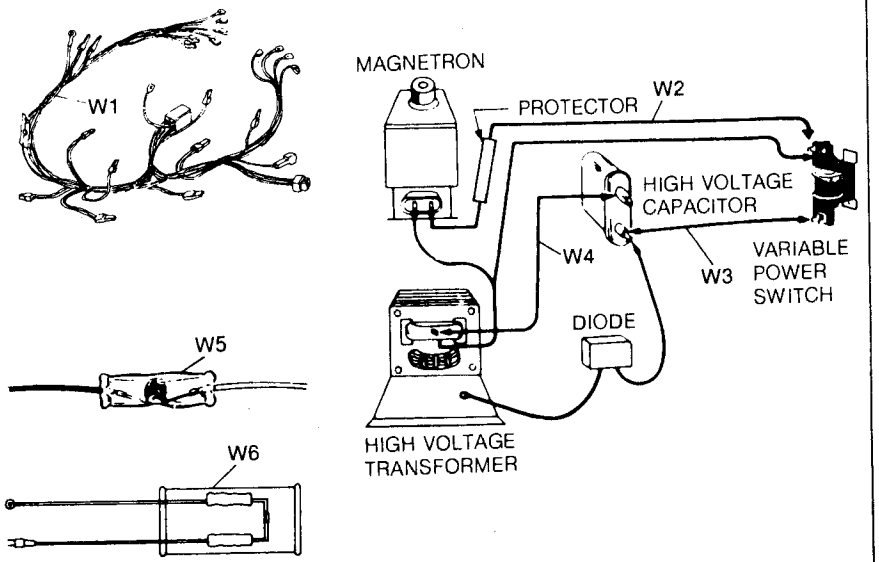
DIGITAL PROGRAMMER CIRCUIT ASSEMBLY, ESCUTCHEON BASE



PACKING AND ACCESSORIES



WIRING MATERIAL



PARTS LIST (NE-9910, NE-9910C)

NOTE : Part numbers are indicated on all parts. Please use these Part numbers for parts orders.
Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
1		ANE110EL20AP	Base assy	1	
2		ANE1008K20AP	Rubber foot	4	
3		ANE1047K20AP	Lower sash	1	
4		ANE110NK20AP	Turntable cover A	1	
5		ANE4156K20AP	Pulley E	1	
6		ANE110AL20AP	Back panel assy	1	
7		ANE110DL20AP	Outer panel assy	1	
8	⚠	ANE201AL20AP	Oven assy	1	
9		ANE201FK20AP	Turntable	1	
10		ANE290D-C00	Roller ring assy	1	
11		ANE201BK20AP	Pulley D	1	
12		ANE201KK20AP	Roller A assy	1	(NOTE 1)
13		ANE2049K20AP	Metal ground strap	2	
14		ANE2055K20AP	Cover A	1	
15		ANE2036K20AP	Reinforcement bracket B	1	For oven
16		ANE202AK20AP	Back panel B	1	
17		ANE4008-821	Fan blade	1	
18		ANE202C-E00	Circulation fan blade	1	
19		ANE202ML20AP	Back heater panel	1	
20		ANE4155L20AP	Belt C	1	
21		ANE203BL20AP	Heater panel A assy	1	
22		ANE2218L20AP	Heater panel B	1	
23		ANE2220K20AP	Heater panel D	1	
24		ANE2242L20AP	Adiabatic material A	1	
25		ANE2243L20AP	Adiabatic material B	1	
26		ANE110NH30AC	Lamp cover assy	1	
27	⚠	ANE3020B60AP	Door hook A	1	
28	⚠	ANE3267B60AP	Door hook B	1	
29		ANE3273B60AP	Lever pin	1	
30		ANE3081B60AP	Spacer	1	
31		ANE400AB60AP	Fan motor	1	
32		ANE4111L20AP	Fan motor bracket A	1	
33		ANE4032L20AP	Reinforcement bracket	1	
34		ANE401KL20AP	Orifice assy	1	
35		ANE401EB60AP	Air guide A assy	1	
36		ANE401DK20AP	Air guide C assy	1	
37		ANE402EL20AP	Air guide D assy	1	
38		ANE6518L20AP	Heater ferrite	2	
39		ANE400KK20AP	Exhaust guide assy	1	
40		ANE4120L20CP	Exhaust guide	1	For NE-9910C
41		ANE4173K20AP	Shutter	1	
42		ANE4166L20AP	Heater fan motor	1	
43		ANE4196L20AP	Reinforcement bracket B	1	For F.M.bracket
44		ANE6558L20AP	Power relay	1	Power relay B
45		ANE6249L10AP	L.V.Transformer	1	
46		ANE4174K20AP	Shaft	1	
47		ANE4161-E00	Spacer A	1	
48		ANE4162-E00	Spacer B	1	
49		ANE4163K20AP	Spacer C	1	
50		ANE4176K20AP	Spring B	1	
51		ANE4182K20AP	Spacer	2	
52		ANE4159K20AP	Fan	1	
53		ANE4165-C40	Rubber	3	
54		ANE400CL10AP	Gear box assy	1	
55		ANE4131L20AP	Pulley A	1	
56		ANE4133-C40	Pulley C	1	
57		ANE4143-D00	Spring	1	
58		ANE4060L20AP	Belt A	1	
59		ANE4110L20AP	Belt B	1	
60		ANE4175K20AP	Spring	1	
61	⚠	ANE6470-E60	Switch	1	Door switch
62	⚠	ANE600BK20AP	H.V.Transformer	1	
63	⚠	ANE6090K20AP	H.V.Capacitor	1	
64	⚠	ANE6202-C90	Diode	1	
65		ANE6126K20AC	Power relay	2	Power relay A Power relay C
66	⚠	ANE6330930AP	Variable power switch	1	
67	⚠	ANE6142-D60	Switch	2	Latch switch A, B
68	⚠	ANE6158B60AP	Switch	1	Short switch
69		ANE6246L20AP	Power relay bracket	1	
70		ANE6145G10AP	Thermal cutout	2	
71		ANE6481G00AP	Switch	1	Oven lamp switch
72		ANE6030540AP	Oven lamp	1	125V 20W
73		ANE6152-780	Oven lamp socket	1	
74		ANE6437-860	Glass plate	1	
75	⚠	ANE6230C30AQ	Fuse	1	15A
76		ANE6231770BN	Fuse holder	1	
77		ANE6324-820	Rubber	6	
78		ANE6242B60AP	Switch bracket	1	
79	⚠	ANE302PB60AP	Switch bracket B	1	
80		ANE630WL10AP	Lever	1	
81		ANE6037G00AP	Capacitor bracket	1	
82		ANE401G-C40	Fan bracket B	1	
83		ANE6306910AP	Insulation sheet R	1	
84		ANE6238B60AP	Spacer	1	
85		ANE630GL20AP	Heater A	1	For NE-9910
		ANE630GL20CP	Heater A	1	For NE-9910C
86		ANE6417-C40	Heater support	2	
87		ANE6501K90AP	Holder C	2	
88		ANE601KG00AP	Sensor jack	1	
89		ANE2077K20AP	Reinforcement bracket D	1	For oven
90		ANE4160L20AP	Fan	1	
91		ANE6501L20AP	Holder C	2	
92		ANE6243G00AP	Spacer	2	
93		ANE9035L20AP	Cord stopper	1	For NE-9910
		ANE9035L20CP	Cord stopper	1	For NE-9910C
94		ANE6156-E00	Insulation panel A	1	
95		ANE900CG00AP	Power supply cord	1	For NE-9910
		ANE900CB60CP	Power supply cord	1	For NE-9910C
96		ANE9027B70AP	Cord bushing	1	For NE-9910
		ANE9027510RN	Cord bushing	1	For NE-9910C
97	⚠	2M157-M2	Magnetron	1	
98	⚠	ANE5002910AP	Embossed ring	1	
99		ANE604LK20AP	Oven temp sensor	1	
100	⚠	ANE3007B60AP	Lower hinge	1	
101		ANE602VL20AQ	Oven lamp bracket	1	
102		ANE9140-E00	Conducting plate	1	
103		ANE1161K20AP	Reinforcement bracket	1	
104		ANE6071L20AP	Insulation sheet B	1	
105		ANE6247G00AP	Spacer B	1	
106		ANE6017K20AP	Solenoid	1	
107		ANE604PK20AP	Sensor cover	1	
108	⚠	ANE601LK20AP	Sensor probe	1	
109		ANE401F-C40	Fan bracket A	1	
110		ANE4164K20AP	Shaft	1	
111		ANE600DK20AP	Terminal board	1	
112		ANE202K810BN	Roller B assy	1	(NOTE 2)

NOTE 1 : When ordering the roller A assy, four rollers will be shipped.
When replacing the roller, four rollers should be replaced at the same time.
Otherwise the turntable may not turn smoothly.
NOTE 2 : When ordering the roller B assy, each three rollers and washers will be shipped.
When replacing the roller B, each three rollers and washers should be replaced at the same time. Otherwise the turntable may not turn smoothly.

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
DOOR ASSEMBLY					
D1	⚠	ANE302AK20AP	Door A	1	
D2	⚠	ANE3002K20AP	Door B	1	
D3	⚠	ANE3085K20AP	Door C	1	
D4		ANE3050K20AP	Bracket	1	
D5	⚠	ANE301QB60AP	Door E assy	1	
D6	⚠	ANE3006B60AP	Upper hinge	1	
D7	⚠	ANE3031910AP	Rubber	1	
D8	⚠	ANE3145K20AP	Door screen A	1	
D9		ANE3146K20AP	Door screen B	1	
D16	⚠	ANE3197G00AP	Door screen C	1	
D11		ANE300RK20AP	Door handle	1	
D12		ANE3147B60AP	Handle latch button	1	
D13		ANE3243910AP	Spring	1	
D14		ANE3018B60AP	Door key A	1	
D15		ANE3019B60AP	Door key B	1	
D16		ANE3107K20AP	Door key lever	1	
D17		ANE3139B60AP	Door key lever B	1	
D18		ANE3021K20AP	Spring	1	
D19		ANE3183B60AP	Ferrite metal A	1	
D20	⚠	ANE3088B60AP	Ferrite rubber A	1	
D21	⚠	ANE3089B60AP	Ferrite rubber B	1	
D22	⚠	ANE3130L20AP	Ferrite rubber C	2	
D23	⚠	ANE3131B60AP	Ferrite rubber D	1	
D24		ANE3056930AP	Handle pin	3	
DIGITAL PROGRAMMER CIRCUIT ASSEMBLY, ESCUTCHEON BASE					
E1		ANE800LL50AP	Escutcheon base assy	1	
E2		ANE8225G20AP	Clock button	1	
E3		ANE6479L50AP	Membrane switch	1	
E4		ANE603LL50AP	D.P.Circuit assy	1	
E5		ANE803RL50AP	Bracket assy	1	
E6		ANE8164K70AP	Ground metal	1	
E7		ANE604HK70AP	P.C.B. Stopper A	1	For NE-9910
		ANE6313K70AP	P.C.B. Stopper A	1	For NE-9910C
E8		ANE6499K70AP	P.C.B. Stopper B	1	
E9		ANE8250K70CP	Metal shield B	1	For NE-9910C
E10		ANE802XK80AP	Metal shield C	1	
E11		ANE8264K80AP	Ground metal B	1	
E12		ANE802WK20AP	Escutcheon bracket	1	
E13		ANE8126L50AP	Smoke panel	1	
E14		ANE8164G20AP	Ground metal	1	
PACKING AND ACCESSORIES					
P1		ANE000BK20AP	Cook book	1	
P2		ANE0003L50AP	Instruction book	1	For NE-9910
		ANE0003L50CP	Instruction book	1	For NE-9910C
P3		ANE0013K20AP	Warranty card	1	For NE-9910
		ANE0013B10CP	Warranty card	1	For NE-9910C
P4		ANE0169B60AP	Servicenter list	1	For NE-9910
		ANE0169B60CP	Servicenter list	1	For NE-9910C
P5		ANE000EL10AP	Supplement cookbook	1	
P6		ANE0102L50AP	Outer case	1	For NE-9910
		ANE0102L50CP	Outer case	1	For NE-9910C
P7, 8		ANE010AK20AP	Filler set	1	
P9		ANE0107580AP	Door sheet	1	
P10		ANE0601K20AP	Glass ceramic tray	1	
P11		ANE0648K20AP	Spatter shield	1	
P12		ANE060XK20AP	Low baking rack	1	
P13		ANE0603K20AP	Cookie sheet	1	For NE-9910
		ANE0603K20AP	Cookie sheet	2	For NE-9910C
P14		ANE0113K20AP	Tray styrol	1	
P15		ANE0108K20AP	Tray packing	1	
P16		ANE0207-860	Styrol sheet	1	
P17		ANE060YK20AP	High baking rack	1	
P18		ANE0117L50AP	Tray packing B	1	
P19		ANE0511K20AP	Attachment label	1	For NE-9910
		ANE0511K20CP	Attachment label	1	For NE-9910C
P20		ANE0106K20AP	Vinyl cover	1	
WIRING MATERIAL					
W1		ANE030AL50AP	Lead wire harness	1	For NE-9910
		ANE030AL50CP	Lead wire harness	1	For NE-9910C
W2		ANE0351L00AP	Lead wire	1	With protector
W3		ANE0363-860	Lead wire	1	
W4		ANE0351-820	Lead wire	1	
W5		ERZC10DK241U	Varistor	1	This is assembled in lead wire harness (W1).
W6		ANE604QK30AC	Surge absorber	1	

Ref. No.	Part No.	Description	Size (mm)	Q'ty	Usage
STANDARD PARTS					
S1	XTW3 + 6B	Screw	3x6	2	Fan
				3	Power relay A,B,C
				1	L.V.Transformer
				1	D.P.Circuit assy
S2	XTWANE4 + 8BN	Screw	4x8	1	Thermal cutout (For oven)
				2	Back heater panel
				2	Insulation panel A
				2	Heater panel A
				2	Reinforcement bracket
				1	Reinforcement bracket B
S3	XTWANE4 + 8B	Screw	4x8	1	Base
				1	Base (Ground)
				1	Door A
				1	Metal ground strap
S4	XTWANE4 + 12B	Screw	4x12	2	Gear box
				4	Orifice
				2	Air guide D
				2	Fan motor bracket A
				1	Reinforcement bracket
				6	Base
				4	Turntable cover A
				4	Door A
				2	Capacitor bracket
				1	Cord stopper
				2	Door hook A
				1	Door hook B
				2	Reinforcement bracket
				2	Exhaust guide (For NE-9910C)
S5	XTWANE4 + 12BN	Screw	4x12	2	Oven lamp bracket
				2	Reinforcement bracket B
				1	Air guide C
				8	Back heater panel
				1	Reinforcement bracket B
				1	Heater panel A
				1	Choke metal A
				2	Heater panel B
				1	Reinforcement bracket
				2	Orifice
				2	Exhaust guide
				2	Air guide A
				2	Back metal

Ref. No.	Part No.	Description	Size (mm)	Q'ty	Usage
S6	XTWANE4 + 12E	Screw	4x12	1	Power supply cord (Ground)
				1	Diode (Ground)
				7	Outer panel
				4	Back panel
				1	Metal ground strap
				1	Surge absorber (Ground)
S7	XTWANE4 + 16B	Screw	4x16	2	Door handle
S8	XTNANE4 + 10B	Screw	4x10	1	Door hook B
				1	Fuse holder
				2	Bracket
				1	Ground metal
S9	XPDANE4A21KP	Wire pin	4x21	1	Handle latch button
				3	Pulley A,C,E
S10	XTCANE4 + 10BC	Screw	4x10	4	Outer panel
				1	Lamp cover
S11	XTEANE3 + 6B	Screw	3x6	2	Thermal cutout (For magnetron)
S12	XYEANE5 + C16T	Screw	5x16	2	H.V.Transformer
				1	Power relay bracket
S13	XTNANE4 + 12B	Screw	4x12	2	Escutchecn bracket
				3	P.C.B.Stopper A
				3	P.C.B.Stopper B
				1	Ground metal
S14	XNG4EVS	Nut	M4	2	Heater support
S15	XUE32KP	U ring		1	Fan
S16	XYN3 + F16S	Screw	3x16	2	Shcrt switch
S17	XWGANE8	Washer	M8	2	Pulley D
S18	XYN3 + F27S	Screw	3x27	2	Latch switch A
				2	Latch switch B
S19	XYN35 + C8VS	Screw	3.5x8	2	Heater A
				1	Conducting plate
S20	XYN4 + F10S	Screw	4x10	1	D.P.Circuit (Ground)
				2	Variable power switch
				1	Ground metal
S21	XYN3 + F6	Screw	3x6	2	Solenoid
S22	XYW35 + B12VS	Screw	3.5x12	14	Door B
S23	XSNANE4 + 13	Screw	4x13	3	Fan bracket A
				3	Fan motor
				3	Heater fanmotor
S24	XYEANE4 + F12S	Screw	4x12	2	Switch bracket
				2	Switch bracket B

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